

Desert

NOVEMBER, 1955 . . . 35 Cents



PRAYER FOR NIGHT-FOLK OF THE DESERT

By ELSIE MCKINNON STRACHAN
Santa Ana, California

Kindler of twilight, weaver of shadow,
Guard while these small folk pattern in
braille,
Stories of night life, unknown to day crea-
tures,
Recording on sand in minutest detail.

Let safety be with them, the chipmunk and
rabbit,
Badger and beetle and vinegaroon;
That I may decipher, before wind erases,
Notes they have left beneath the pale moon.

Give them the time for love and home-
building,
For racing and rollicking in the sand;
Maker of all that is tiny and helpless,
Hold back the dawn until they disband.

And let them not loiter in finding their day
homes.
Spare them to hurry. Watch over each waif.
Keep the slow ones from sudden disaster.
Oh, please be with them, let each one be
safe!

CAGED COYOTE

By ETHEL E. MANN
St. Ignace, Michigan

You scan the passers by with cold distrust
As you patrol on ceaseless, padded feet;
You tolerate man's gaze because you must
Though schooled in cunning you may not
compete
With captors, who contrived through clever
snare
In one unguarded moment, your complete
Betrayal; for the instant, unaware
Your sleepless eyes scorn man's unsavory
dole
While hated man scent dominates the air
Far better, sleep out on your wind-swept
knoll
With hunger pangs, at end of fruitless quest;
A lithe, gaunt body, housing your free soul.

Collared lizard. Photograph by Joe Orr, Los Angeles, California.

Pain and Grief

By TANYA SOUTH

How then has good Fate passed you by,
When it is pain and grief that make
The soul for greater wisdom cry,
And unto greater Light awake?

For pain and grief are but the tools
That scour and polish and bisect,
Until we learn to follow Rules,
And Light alone reflect.

FANTASY

By GRACE STAPLES

I stood in a desert beside a palm.
I'd lost my hold on the ways of men.
My soul was sick for the peace and strength
Of primitive things again.

I touched the tree. My arms went 'round.
I cried for help to this ancient kin.
With face close pressed my fingers clutched
Its bark. I passed within.

My body slipped to the curving roots.
My life flowed on in the life of the tree
But I sensed that fainting helpless thing—
The thing that had been me.

To a free, rich life I turned again,
All human grief and longing gone.
This surging joy that now was mine
I'd known before in a far aeon.

My being reached in the deep cool earth.
It flowed to the sky and prayed to the sun.
I knew the peace of forest life.
The tree and I were one.

GIANT JOSHUA TREE

By CONSTANCE WALKER
Los Angeles, California

You stand as Joshua
Vicariously giving
His creed for victory
In strong, courageous living.

DO WE UNDERSTAND LIFE

(Acrostic)
By DARRELL TOTTEN
Henderson, Nevada

Deep down within the complex brain of man
One cell alone determines that brain's plan.

Which one of us can dare to think that he
Exemplifies that which all men should be?

Utopia has ever been our dream;
Now and then a wish—now and then a
scheme.

Do we believe the words our lips repeat?
Each war we wage leads only to defeat.
Reason, it seems, deserts us in the end;
Somehow we shape the truth and lie to
blend!

Today we stand again, where we once stood
Ages ago, and speak of Brotherhood.
Nature, we say, makes us behave as fools—
Does Nature write our books, and build
our schools?

Look at the star-filled desert sky and ask
If peace of mind is worth the pleasant task.
Flying endlessly on through space we go,
Each fearing only what we do not know.

DESERT MONARCH

By VIRGINIA L. BRUCE
Hemet, California

Undaunted by the scars of time,
It's stood from day to day—
This rough and rugged Joshua tree
In lonely majesty.

For untold years it's kept its watch
Above the shifting sands
So restless in their wanderings
Across the desert lands.

Its arms reach out towards the sky,
And when the sun hangs low
They weave a spell of silent song
Against the golden glow—

Enchanting all the quiet miles
Until the stars of night
Like tiny windows in the sky
Shine bright with heaven's light.

And when the dawn folds up the dark
With faith renewing hands,
My Joshua tree still keeps its watch—
A monarch of the sands.

FREE GOLD

By GEORGIA JORDAN
San Diego, California

The desert sun is lasting gold,
A healing gift for brighter days,
Reflected by the sands that hold
A treasure chest of violet rays.

Lizard, Beware!

By VADA F. CARLSON
Winslow, Arizona

O, lizard, beware!
You're as quick as a wink
But not as immune from attack
As you think.
Don't lie in the sun,
Puffed up in your pride,
Till a chaparral cock
Neatly punctures your hide.
Your body, my friend,
He will coldly impale—
With a jab of his beak
And a flit of his tail.
If you have a fear
You're wise not to lull it,
Lest you disappear
Down a roadrunner's gullet.



DESERT CALENDAR

- Nov. 2-5—World Symposium on Applied Solar Energy, Phoenix, Arizona.
- Nov. 4-13—Arizona State Fair, Phoenix, Arizona.
- Nov. 5-6 — Ryder Cup Matches, Thunderbird Country Club, Palm Springs, California.
- Nov. 5-6—Sierra Club hike to concretion forest near Truckhaven, 30 miles south of Indio, California, on Highway 99.
- Nov. 5-6 — Cotton Carnival, Casa Grande, Arizona.
- Nov. 7-8—New Mexico Cattleman's Association Fall Show and Sale, Raton, New Mexico.
- Nov. 10-13 — Annual Death Valley Encampment, sponsored by Death Valley '49ers, Death Valley, California.
- Nov. 11—Good Neighbor Day festivities, Bisbee, Arizona.
- Nov. 11-16 — Annual Golden Spike National Livestock Show, Ogden, Utah.
- Nov. 12—St. James Day Corn Harvest Dance, Tesuque, New Mexico (photography permitted by approval and fee payment).
- Nov. 12 — San Diego's Day Corn Harvest Dance, Jemez Pueblo, New Mexico (photography prohibited).
- Nov. 12-13 — Annual Weed Show sponsored by the Woman's Club, Twentynine Palms, California.
- Nov. 18-27—Arizona State Bowling Association Tournament, Yuma, Arizona.
- Nov. 19-20 — Annual Elks Rodeo, Victorville, California.
- Nov. 24—Desert Sun Ranchers Rodeo, Wickenburg, Arizona.
- Nov. 24-27—Sierra Club Kofa Range hike, campsite at Palm Canyon, 17 miles south of Quartzsite, Arizona.
- Nov. 25-27 — New Mexico and El Paso Stamp Clubs Convention, Hotel Paso del Norte, El Paso, Texas.
- Nov. 26-27—Junior Parade and Rodeo, Florence, Arizona.
- Nov. 26-27—Sierra Club Telescope Peak hike, meet at cafe near Wild Rose Station, 40 miles north of Trona, California, for tour of Aguerberry Point and Skidoo.
- November and December—Peruvian Weaving Exhibit, Museum of Northern Arizona, Flagstaff, Arizona.
- Late November or early December—Zuni Pueblo House Dedication ceremonies, Santa Fe, New Mexico (photography prohibited).
- After First Frost — Navajo Fire Dance, Navajo Reservation.

About the Cover . . .

The outstretched arm of this Giant Saguaro Cactus has lost its halo of waxy white flowers and in its place has grown a ring of brilliant scarlet fruit—the delight of desert dwellers and desert birds alike. Indians skillfully reach 30—often 40—feet into the hot summer sky with their long kuibits to knock the dark red pulp centers to the ground, leaving the green and unopened fruit untouched to ripen in its own time.



Volume 18

NOVEMBER, 1955

Number 11

COVER	Saguaro Cactus fruit (see story on page 14) Photo by Charles W. Herbert	
POETRY	Lizard, Beware! and other poems	2
CALENDAR	November events on the desert	3
PERSONALITY	Kelly of Capitol Reef By RANDALL HENDERSON	4
LOST MINE	A Skeleton Guards the Lost Gold of Jarbidge By NELL MURBARGER	7
HISTORY	Hassayampa Dam Disaster—1890 By I. H. PARKMAN	11
GARDENING	Tamarisk in the Back Yard By RUTH REYNOLDS	13
INDIANS	Saguaro Harvest in the Land of Papagos By CHARLES W. HERBERT	14
FIELD TRIP	Rock Trails in Chemehuevi-Land By HAROLD O. WEIGHT	18
EXPERIENCE	Rare Bird of the Santa Ritas By DOROTHY W. ALLEN	23
CONTEST	Picture of the Month Contest announcement	24
CLOSE-UPS	About those who write for Desert	24
PHOTOGRAPHY	Pictures of the Month	25
NATURE	Desert Hunter—Shy and Deadly By EDMUND C. JAEGER	26
LETTERS	Comment from Desert's readers	28
TRUE OR FALSE	A test of your desert knowledge	29
NEWS	From here and there on the Desert	30
FICTION	Hard Rock Shorty of Death Valley	31
URANIUM	Progress of the mining boom	35
MINING	Current news of desert mines	39
LAPIDARY	Amateur Gem Cutter, by LELANDE QUICK	40
HOBBY	Gems and Minerals	41
COMMENT	Just Between You and Me, by the Editor	46
BOOKS	Reviews of Southwestern Literature	47

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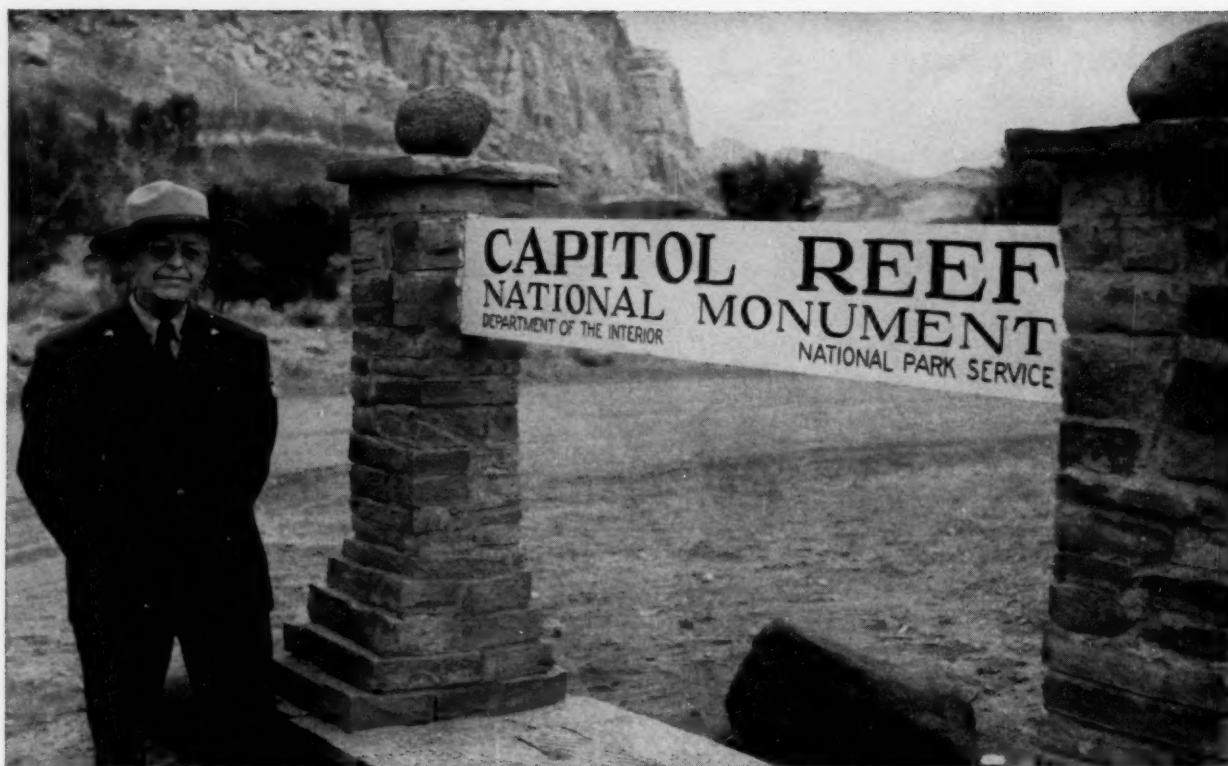
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Charles Kelly, printer, musician, explorer, writer—and now he is superintendent of one of the most colorful national monuments in the West.

Kelly of Capitol Reef...

If you visit the Capitol Reef National Monument in southwestern Utah, the courteous ranger on duty there more than likely will be Charles Kelly—for the Park Service custodianship at Capitol Reef is a one man job—and Kelly is the man. He is superintendent of 33,000 acres of the most gorgeous scenery in Uncle Sam's domain—and he loves to share his knowledge of and enthusiasm for The Reef with all who come to his door.

By RANDALL HENDERSON

"I'VE GOT a whole bale of stories about desert rats if you want 'em—never been able to find anyone who would use the material."

This sentence in a letter from Charles Kelly in March, 1938 — five months after *Desert Magazine* had been launched on its 18-year career—was my introduction to a man who has been one of *Desert's* most valued contributors down through the years. Kelly was a partner in a printing business in Salt Lake City when he first wrote me.

Accompanying the letter was a manuscript from his "bale of stories" about desert rats. It was the story of Harry Goulding and his wife Mike, whose Indian trading post in a little

cove at the base of the cliffs in Monument Valley, Utah, was then known only to a few of the more venturesome travelers.

It was an interesting story—about a young cowboy and his wife who had recognized Monument Valley as one of the scenic wonderlands of the Southwest, and had envisioned the day when increasing numbers of motorists would be attracted to this desert land of red sandstone monoliths, and would need provisions and accommodations and guide service.

It was the kind of story the newly organized editorial staff of *Desert* was seeking—and is still seeking, and it was published in July that year.

Since then, Charles Kelly has written 51 illustrated feature stories for *Desert*, mostly about the interesting people he has met in his exploration of Utah, Nevada and Arizona deserts, extending over a period of 30 years.

Although I have been buying Kelly's manuscripts and reviewing his books for more than 17 years, and have a huge file of correspondence carried on during that period, it was not until last summer that I first had the opportunity to meet him personally. Our trails have crossed many times, but always we missed each other by a few miles or a few hours.

Then one day in June I parked my station wagon in front of the little frame building which is the headquarters of the Capitol Reef National Monument at Fruita, Utah, and introduced myself to the scholarly man in the ranger's uniform who was on duty in the office.

That day, and in subsequent meetings, I learned much about the man who is a recognized authority on the history, geology, archeology and geog-

raphy of the great central desert plateau where he has spent much of his mature life, always exploring, reading and writing.

Kelly was born in Cedar Springs, Michigan, in 1889. His father was a minister, and soon after Charles' birth the family moved to a new pastorate in Ohio, and a few years later to Chicago.

His mother, a cultured woman, gave him his elementary schooling at home, and laid the foundations for a life of study and research. It was not until he was 15 that he was enrolled in the public schools, and his academic studies ended with three years at Valparaiso University in Indiana.

In the meantime he had been learning the printing trade in the little shop where his father printed religious tracts in Cottonwood Falls, Kansas.

At 25, with his classroom work and his printing apprenticeship behind him, he went to Pendleton, Oregon as a Linotype operator, and soon became the foreman of the newspaper composing room there. Then he moved to Great Falls, Montana, where he spent three years in a commercial printing plant.

When World War I was declared he enlisted in the infantry, and was in officer's training school when the Armistice was signed.

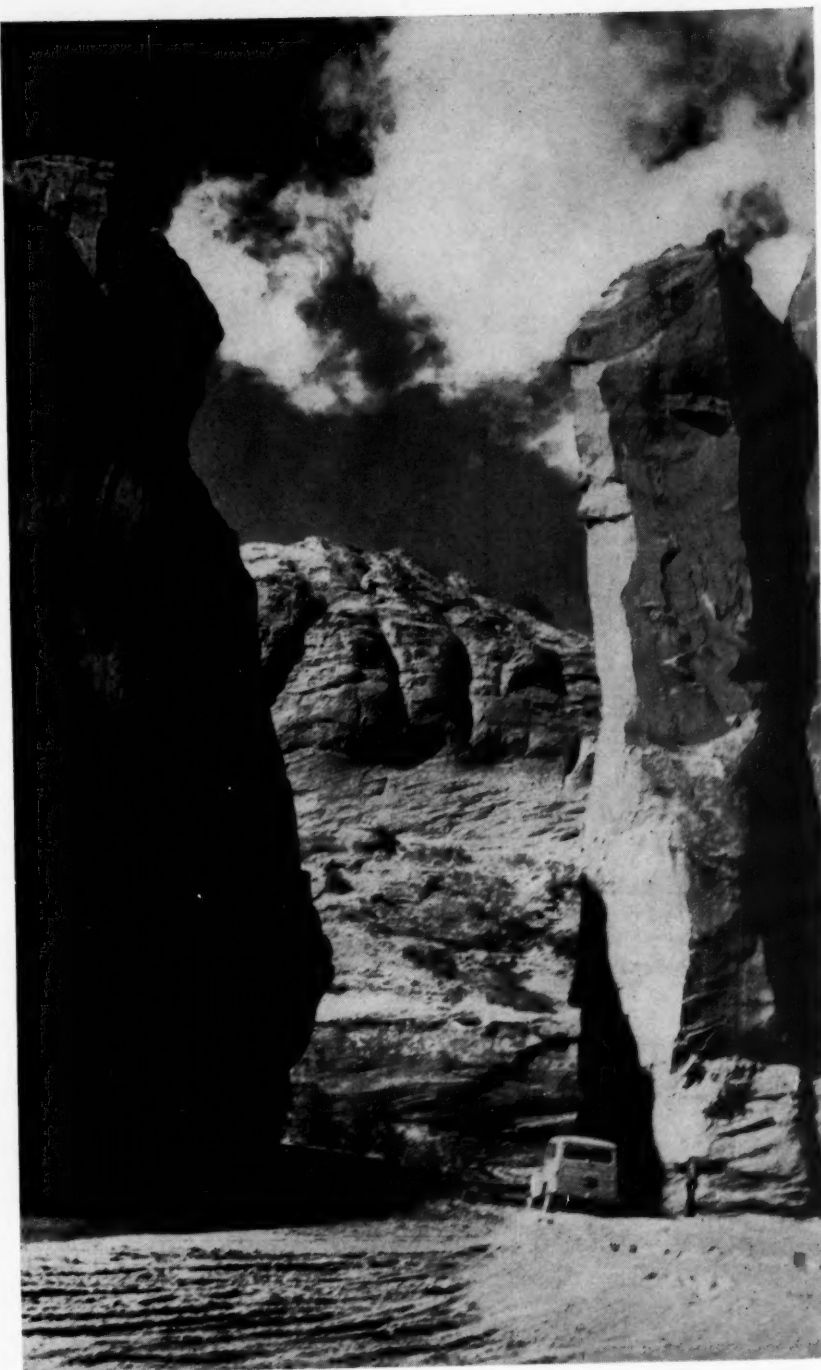
His parents had encouraged him to practice on the violin and cornet. Later he played in school and community orchestras, and when he received his discharge at the end of the war he decided to follow music rather than printing as a career.

He went to Salt Lake City because he felt the opportunities for a musician were better there than in a small community. But full time employment for a musician was not easy to find, and he now had a wife, and a home to maintain. He and Harriett were married in 1919.

Under the circumstances it was easy to turn back to the printing business, where employment was dependable and wages good. He took a job as Linotype operator, and a year later became a partner in a commercial printing business in Salt Lake City. He remained in this business 19 years.

In the meantime he had taken up hobbies which were taking more and more of his time and interest. His brother, also working in Salt Lake City, had acquired a Model T Ford, and he asked Kelly to suggest some weekend trips they could take together in the new car.

Charles had always been curious about the great blank space on the Utah map marked "Great Salt Desert" and they scheduled that for their first



Capitol Gorge in the Capitol Reef National Monument.

trip. At the edge of the desert where they stopped for information a garage man told about the Donnor party which had crossed that way in 1846.

Kelly was intrigued by the meager information given by the garage man, and when he returned to Salt Lake City he went to the library to read what he could find about the Donnor party.

In his quest for information about

the tragic Donnor episode he found recurring references to other men and incidents in the historical background of Utah and the Southwest. He became an eager student of western history, especially that of the great Lahontan Basin and the plateau that extends from the Rockies westward across Utah and Nevada.

Before long, all his spare time was

devoted to historical research, and the weekend and vacation trips of exploration along historic trails where bits of evidence—old wagon ruts, inscriptions on rocks and campsites marked by discards from the wagon trains a hundred years ago—were to be found.

It was inevitable that Kelly should make the acquaintance of Frank Beckwith, editor of the weekly Chronicle at Delta, Utah, who for many years had been engaged in similar pursuits. In association with Beckwith, Kelly's interests were expanded to include archeological research. Together they sought prehistoric campsites, artifacts and petroglyphs which might throw light on the character and habits of the prehistoric people who had dwelt in this desert region.

Then Kelly began to write. There was only a limited market for short articles in the fields in which he was interested, and since he had his own facilities for the printing of books, he began to compile book-length manuscripts. During the 10 years from 1930 to 1940 he completed the following volumes:

Salt Lake Trails.

Holy Murder, a Biography of Porter Rockwell.

Old Greenwood, the story of a trapper.

Miles Goodyear, the biography of the man who founded Ogden, Utah, before the Mormons came.

Outlaw Trails, the story of Butch Cassidy and other outlaws.

Journals of John D. Lee.

All of these books, printed in limited edition, are now out of print and some of them are collector's items of rare value.

Kelly found the demands of a highly competitive business enterprise interfering more and more with the things he wanted to do—study and write. It was not easy after a long and hectic day attending the infinite details of the printing business—selling letterheads, keeping the presses rolling, meeting payrolls and collecting bills—to devote a relaxed evening in the library or at the typewriter.

One of the places Kelly had visited in his exploration of Utah was the Wayne Wonderland, a vast scenic region in Wayne County. He had gone there first to see the Pectol collection of Indian artifacts, one of the finest private collections in the state.

One of his friends in Salt Lake City was Dr. A. L. Inglesby, a dentist who had taken up rock collecting and lapidary as a hobby. Dr. Inglesby had re-

tired and moved to Fruita in the Wayne Wonderland to devote all his time to his hobby. He suggested that the peaceful valley at the base of the colorful Capitol Reef would be an ideal place for a writer to live and work.

The urge was strong, and in 1940 Kelly sold his interest in the Salt Lake printing business and moved to Fruita. He was not ready to retire, and his limited book editions had never been highly profitable. He would buy a fruit ranch, and divide his time between the orchard and his study.

But something was taking place in Europe which interfered with his plans. The inflation of the economy which followed Hitler's invasion of France and Uncle Sam's feverish effort to re-arm, had created a ready market at high prices for food, including fruit. Orchard lands were in demand and fruit acreage had advanced sharply in selling price. Kelly decided to mark time until conditions were back to normal again. He is still waiting to buy a fruit ranch at a price he can afford to pay.

By presidential proclamation of Franklin D. Roosevelt in 1937, 33,068.74 acres of the Wayne Wonderland had been set aside as Capitol Reef National Monument. When Kelly moved to Fruita three years later no resident custodian had yet been named for the Monument. However, in order to obtain water rights, the Park Service had invested in a house and a small tract in the orchard area along Sulphur Creek.

The Monument was under the jurisdiction of Paul Franke, superintendent of Zion Canyon and Bryce National Parks. On one of his visits to Capitol Reef Franke met Kelly, and suggested that he assume sort of a dollar-a-year custodianship of the Monument, his compensation to be the rental value of the dilapidated old house which the Park Service had acquired.

For Kelly, this proposal solved the problem of housing pending the purchase of a fruit ranch and he accepted it, although much time and some investment was required to make the house livable.

Although no budget had been set up in Washington for the administration of Capitol Reef Monument, Franke at various times was able to spare limited sums from his own budget for preliminary surveys and road work, and for some part time work for Kelly. A small headquarters building had been erected as a WPA project.

It was not until 1950 that the Park Service authorized the employment of a superintendent for the Monument,

and Kelly was given full-time pay for a job to which he had been devoting much of his time for many years.

Kelly had found everything he wanted at Capitol Reef—a land of fantastic beauty with unlimited opportunity to explore, and to study the subjects in which he was most interested—history, geology, archeology, botany and zoology. And now he was custodian of this 33,000-acre domain for Uncle Sam.

The Park budget for Capitol Reef was very limited, but that did not dim Kelly's enthusiasm. Much of the time he was without a ranger assistant—which meant that the office would be closed on his weekly day off. But tourists never take a recess, and when Kelly was not at park headquarters they sought him at his home. Virtually, it has been a seven-days-a-week job.

But Kelly does not complain about that. As far as he is concerned, Capitol Reef is not merely the end of the rainbow, it is the whole rainbow. It has the gorgeous coloring of Death Valley Monument plus the fantastic formations of Bryce—and Kelly wants to share the beauty of this land with all who come to his door.

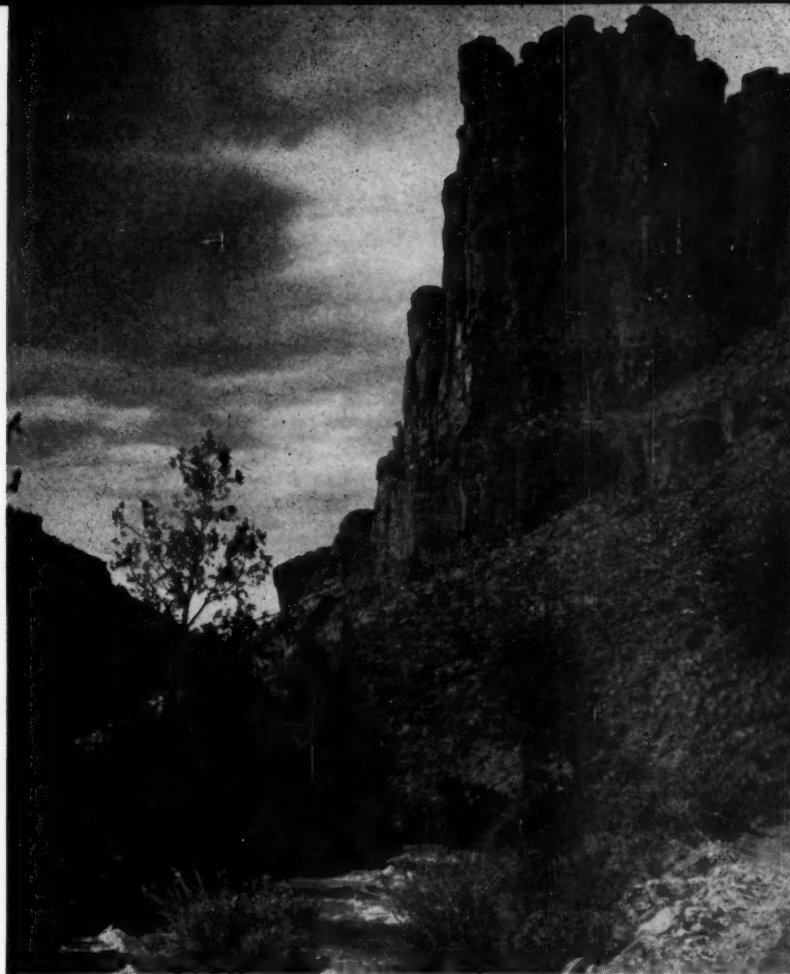
Capitol Reef is uranium country. One of the first discoveries of this ore was made here many years ago, before the Monument was established. Until last May the Atomic Energy Commission, under the authority of an emergency provision, was issuing permits to prospect for uranium within the Monument. However, the area has now been thoroughly prospected, and no new permits are to be issued. While the outstanding permits are good for a year, and for continuing operation on the few claims where pay ore had been found, the mass invasion of the Geiger counter clan is about over—and Kelly looks forward to the opportunity to restore and maintain his national monument for the purposes for which parks and monuments were created—to serve the cultural and recreational, rather than the commercial, purposes of American citizens.

There has been little time for writing since Kelly assumed the superintendent's position at Capitol Reef. *Desert Magazine's* staff would welcome more of his stories. But he is still a student—and in his present position is accumulating a vast store of new material for the day when he and Harriett can resume the way of life they dreamed about when they moved to the lovely valley of orchards at the base of the great stone cliff—a quiet study where the walls are lined with books, and apples and pears and peaches growing in their own little orchard outside.

A Skeleton Guards the Lost Gold of Jarbidge

Two men found a gold-studded ledge far up near the headwaters of one of the creeks tributary to Jarbidge River in northeastern Nevada—but both of them carried the secret of its location to their graves. Old-timers believe the gold is still there—awaiting the day when another prospector with the hardihood to enter that high rugged country will rediscover it.

By NELL MURBARGER
Photographs by the author
Map by Norton Allen



Jarbidge Canyon. In the high country above where the shepherd found the gold vein summer comes for only one month out of the year.

FROM THE OLD stage station of North Fork on the headwaters of the Humboldt, a graded road leads northeasterly into that perpendicular land where Nevada rubs shoulders with Idaho. It is a lonely road that serves no towns and only a few cabins. Sage hens patter along its dusty ruts or whirr away heavily on stiff wings while jackrabbits and half-wild range cattle turn to stare curiously at the human intruder.

Crossing the West Fork of the Bruneau the road leads on through the little ghost town of Charleston and up into Humboldt National Forest where the scraggly brush of the desert gives way to tangled thickets of small quaking aspen and mountain mahogany. These in turn, give way to dark aisles of alpine fir and limber pine and high, wide, barren expanses where it seems possible to look past the edge of the world halfway into Eternity.

After looping over the tumbled ranges for 50 miles, the road noses sharply down the south wall of Jarbidge Canyon — dropping more than 2000 feet in five miles of corkscrew turns — and deep in the basement of that shadowy gorge it deposits itself in the old mining camp of Jarbidge—population 23.

Should the spirit of adventure ever lead you to Jarbidge I hope you find it much as I did last summer—a pleasant little ghost town living in the shade of mine dumps and memories, its single street flanked by two rows of faded log cabins built during the gold mining boom days of 40 years ago. I hope your visit falls in July or August when every old porch is latticed with morning-glory and hop vines, and the old picket-fenced yards are buried in hollyhocks, and the canyon air is sweet with wild roses, chokecherry blossoms and creek dogwood, and the brush is filled with quail talk.

I hope, especially, that you find Charlie Hawkinson at home, for Charlie has lived at Jarbidge for over half of his 80-odd years and he knows this region like the inside of his pocket. He will show you the ruins of the great Pavlak mill and tunnel, the Bluster and Success mines, the Flaxie and Starlight. He will take you to the spot on the road where a stage driver was murdered in Nevada's last stagecoach hold-up and he will show you a willow-grown length of canyon where nearly \$4000 of the stolen money was said to have been buried.

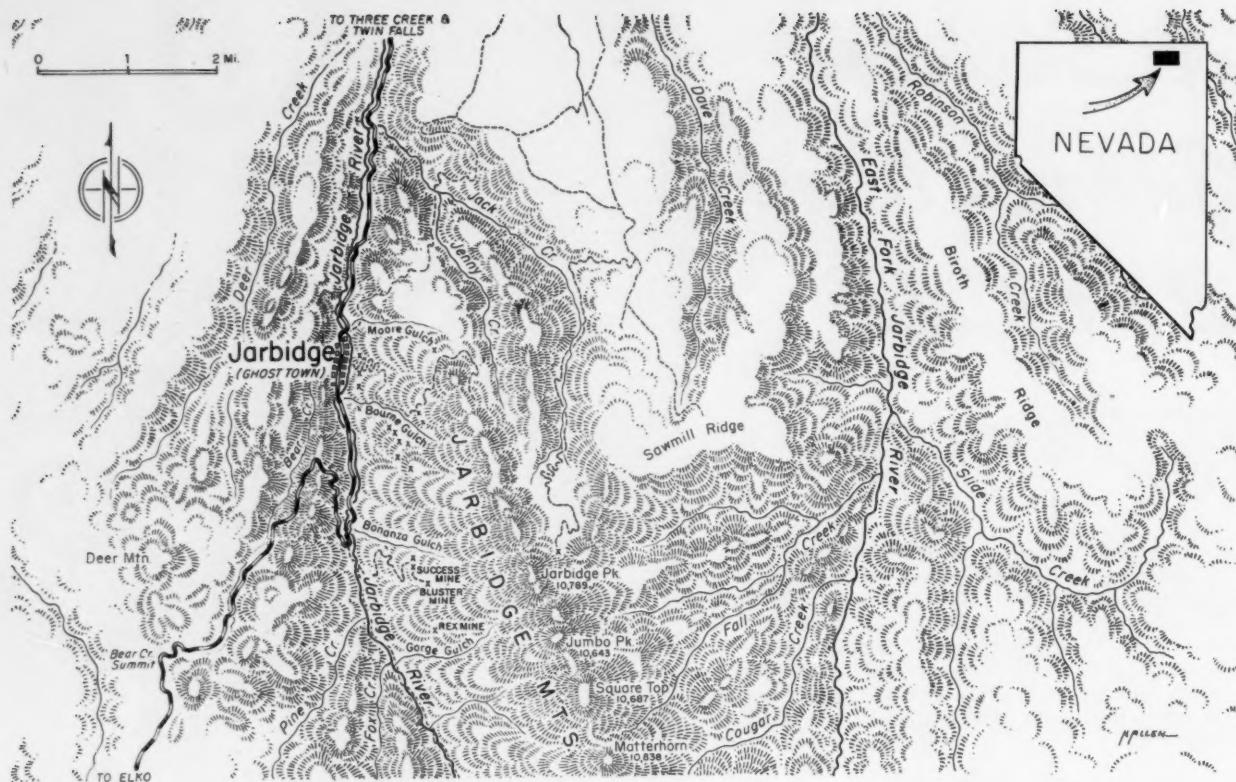
And then, when evening has settled over the little camp and the world has grown dark and very still, an old timer or two may shuffle down the dusty street to Charlie's cabin. Maybe they'll sit on Charlie's doorstep and smoke their pipes and visit. Their talk will drift to the day when Jarbidge was young and no man knew how great a bonanza might lie but a shovel's length away.

Listen well, then, stranger for at such times old men of the Jarbidge country speak of the Lost Shepherd mine and the skeleton left to guard it.

While the gold strike that sired the town of Jarbidge did not take place until 1908, that rough land at the dovetailing headwaters of the Jarbidge, Bruneau and Humboldt rivers had been producing gold for nearly 40 years.

First of the yellow metal known to have come from this district made its appearance in the late 1870s, soon after the Bruneau basin and its tributaries were explored by a party of Mormons seeking potential farmland.

In the course of that party's explorations, two of its members found gold in the beds of several small creeks, but



because their church leaders looked upon gold mining as an unsuitable occupation, they made no mention of the discovery. Fulfilling their mission they returned to the Jarbidge country, traced the placer to its source, built a small arrastre and began mining and milling gold which they sold in small lots at Elko and Tuscarora.

These Mormon partners probably exercised reasonable care to keep secret the location of their mine. It is unlikely that other prospectors made great efforts to learn its site, however. There was much mineral wealth to be had in Nevada without having to probe that high, remote region nearly 100 miles from the nearest source of supply where snowdrifts lay piled in the deeper canyons for 11 months out of every 12.

So the two Mormons went on operating their little arrastre and selling their gold and living their quiet way.

A time finally came, however, when the merchants in Elko and Tuscarora began to realize that "the Mormon boys" had not been around for a long while. Maybe they had worked their mine out and then left the country; maybe they had been buried by a snowslide. No one knew and no one bothered to investigate and so the first known Jarbidge area gold production came to an unrecorded end.

Years later in 1885 a stage driver passing through the region picked up

a piece of ore and took it to his employers, Scott and Hanks and asked if they would have it assayed for him. It was some while before the stage bosses got around to having the assay made but when they did they learned that the ore was fabulously rich in gold!

By that time, however, the driver had left the company and was nowhere to be found. Rumor said he had gone back into the wild Jarbidge country to look for more gold. He never was heard from again.

Coupled with the activities of the two mining Mormons, the stage driver's discovery whetted the interest of mining men and soon a few prospectors ventured into the region—each to work through the area's woefully brief summer and then to wander on to other diggings blessed with more compatible winter climates.

Among the fair-weather miners who strayed into the region about 1890 was a man whose name is remembered only as Ross. In the course of his summer's work, Ross came upon some float fantastically rich in gold. He was tracing it to its source when dark clouds began gathering around the summits of the loftier peaks and the ominous hush of approaching winter closed in upon the canyons.

Leaving his pick and shovel stuck in the rocky ground to mark the highest point to which he had followed the

float, Ross packed his camp gear and retreated from the high country. A few hours later he reached a sheep camp on the summer range of John Pence situated on the east bank of the Jarbidge River. The camp tender, a man named Ishman, invited him to remain overnight.

Possibly Ross had a premonition that he would never return to his promising prospect; or, more than likely, his weeks alone on the mountain had left him so hungered for human companionship he could not resist the impulse to confide in another the news of his good fortune. He told Ishman, the shepherd, of the rich float he had found and fully described the canyon where he had located it. He even went far enough beyond the call of duty to relate how he had spent half the summer tracing the float and how he had left the place marked with his pick and shovel.

And, according to the story told a year later by the camp tender, Ross told him that if he failed to return to the prospect in the spring, Ishman should consider it his property and go ahead with its development.

Ishman returned to the home ranch but said nothing regarding his encounter with Ross, or what Ross had assertedly told him.

When spring came and dark patches appeared on the hills and bluebells and johnny-jump-ups began to bloom

in the greening meadows around the stock dams John Pence's sheep and their herder again moved up the slopes toward that aspen-ringed meadow.

As soon as it became possible for him to do so, Ishman made his way up the mountain to Ross' claim. Whether he honestly wondered if he would find Ross there or whether he knew for a certainty that Ross would never return to that prospect is something no man can say. In either case, Ishman found the pick and shovel as Ross had described it—but lying beside the tools was another marker of quite a different character—the whitening skeleton of a man!

Although the bones had been stripped clean and disarranged by animals, the skeleton appeared to be complete. According to Ishman's later report to John Pence he was unable to determine if the skeleton was that of Ross or of some other man. Nor, apparently, could he ascertain how the unfortunate victim came to his end.

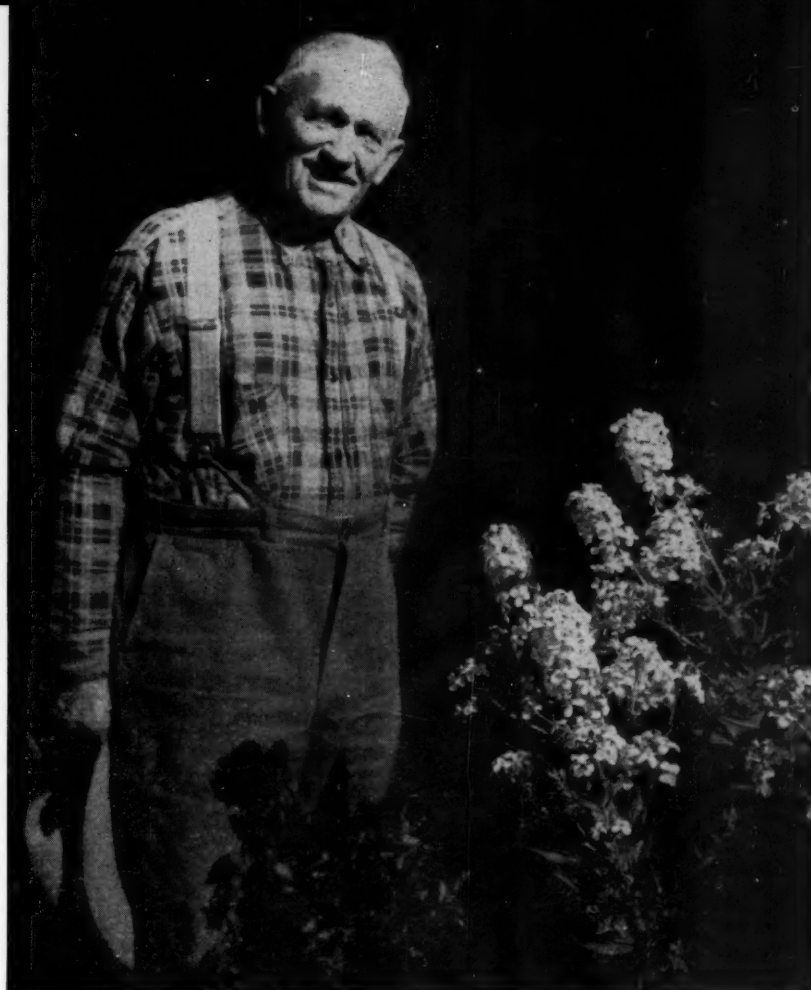
Undaunted by this gruesome discovery, Ishman devoted all his spare time that summer to tracing the float. To an experienced miner that tracing might have presented few difficulties but Ishman was not an experienced miner — he was a shepherd. For days at a time he would think he had lost the lead. Then he would find another small piece of ore heavily impregnated with gold and his search would be launched anew. Thus he worked his way up the mountain slope, day by day and foot by foot.

Finally those long weeks of seeking led him to a small cropping of rock thickly seamed with yellow.

He had found the source of all those rich pieces of float but summer was already so far spent that snow-laden clouds had come to hover around the summits and the lonely wind that licked at the yellowing aspens was gusty and chill. Collecting several pounds of ore Ishman carefully covered the outcropping with dead brush, hid all evidence of his work, and removed Ross' pick and shovel lest those markers guide someone else to the discovery. Then, detaching the skull from the skeleton as a macabre memento, the shepherd rounded up his flock, broke camp, and started back down the trail.

At the home ranch Ishman exhibited the skull and ore samples to his employer, John Pence, and for the first time related the weird story of his meeting with Ross a year before and of the developments that followed.

One glance at the samples was enough to tell Pence that here was ore of a richness hitherto unknown in that section of the country — an opinion later substantiated by a reputable assayer who found that the poorest of



Charlie Hawkinson came to Jarbidge in 1912.

Ishman's ore samples ran more than \$4000 to the ton.

While Pence and Ishman agreed to tell no one of the startling discovery they talked of little else between themselves that winter. Yet Ishman never revealed to Pence the exact location of the mine. Whenever his employer steered the conversation around in that direction, the canny shepherd would tell him that he would take him to the place as soon as the mountain snows and weather permitted.

At last the meadowlarks of another spring were singing and bare patches of ground again appeared on the wind-swept shoulders of the hills. Long before it was possible to take the sheep over the trail to their summer pasture Ishman and Pence headed into the mountains.

As the men pushed higher into the rugged ranges Ishman's excitement grew until it bordered on madness. Faster and faster he climbed into the cold, thin air of the high country, his fierce pace governed only by the limits of his endurance.

In the face of this powerful drive and vitality the tragic event soon to follow must have been doubly shocking to John Pence.

Toiling up the mountain a few yards behind Ishman, Pence saw the camp-tender suddenly throw his hand to his head and reel drunkenly.

And then, as Pence stared aghast, that powerful form began crumpling to earth, inert, flaccid, lifeless.

Despite heroic efforts by the rancher in getting his stricken companion down off the mountain and to the nearest doctor at Mountain City—a 100 mile trip by horse and wagon — Ishman died a few days later, a victim of a cerebral hemorrhage. He had not regained consciousness.

Death silenced the only man who knew the mine's location and Pence was left with no clues save a few vague details Ishman had dropped concerning the general terrain near the bonanza. With only these thin leads the sheepman spent thousands of dollars grubstaking prospectors summer after summer, always sending them into the same wild region where he believed the mine to be hidden. Numerous other prospectors tried to locate the mine on their own account. Of these some never returned, and it was presumed they had starved to death or had remained too late in the year and were trapped by winter. Other thou-



Log buildings along Jarbidge's single street date back to the 1909-1910 gold boom. Electric power was brought in from a distance of 80 miles.

sands of dollars were spent with spiritualists in an effort to make contact with either Ross or Ishman in the spirit world—but all these efforts were equally in vain.

In time the Ross discovery became known as "The Lost Sheepherder Mine" and when men of the northern border country sat before their pine-wood fires on the long winter evenings they talked of it, conjectured over its possible location and dreamed of someday finding it.

In November of 1908 Mr. and Mrs. D. A. Bourne were returning to their home at Boise, Idaho, after a cold horse-and-wagon trip to southern Nevada. Bourne, who had formerly lived at the little settlement of Steptoe in White Pine County, Nevada, had been around mines and mining men all his life and for much of his life he had heard tales of the Lost Sheepherder. Whenever he passed the general locale of the Sheepherder he kept his eyes open and on this occasion—cold as it was—he was watching for color and formation.

Reaching the banks of the Jarbidge River, Bourne and his wife and their weary team turned down the stream and followed it to a point nine miles from the Idaho line, where they were suddenly confronted by what was later described as "a bluff of great height with gold in every line."

Due to the extreme isolation of the Jarbidge River country even Bourne's miraculous strike did not have the effect of starting an immediate stampede. As late as the fall of 1909 only six or seven men were prospecting in the district, but during the early months of 1910 the full thrust of excitement hit the newspapers of Elko and Twin Falls.

Some of Bourne's assays, it was reported, were running to the fabulous figure of \$73,000 in gold to the ton of ore!

"Before I had dug a hole 10 feet deep in the property . . . I had been offered \$2,000,000!" said Bourne in

There are many versions of the Lost Sheepherder Mine story, some radically different from others. The version related by Miss Murbarger is the one told by Mrs. John Pence in 1910. Because Mrs. Pence was the wife of the man who the sheepherder told his story to, many believe her version to be the most authentic.

an exclusive interview published by a Los Angeles newspaper. "Then I was given a chance to sell 100,000 shares for \$1,000.00. But as there is ore valued at \$27,000,000 in sight, I am not selling!" This statement appeared in the *Elko Free Press* of January 21, 1910.

With this excitement, the old story of the Lost Sheepherder mine was revived and while it had been Bourne's original thought that his discovery and that made by Ross were one and the same, when he and others had time to analyze the two strikes they realized that Bourne's mine could not possibly be the Sheepherder—that the Sheepherder must have been five or more miles distant and much higher on the range.

With the Bourne strike transcending anything men had hoped from the Sheepherder, the story of the old mine gradually slipped into the limbo of ancient history.

Jarbidge developed rapidly as a town. February, 1910, found 500 persons in camp. Supplies of all kinds were scarce and exorbitant in cost. Most of the buildings in camp had been constructed of pine logs but seven of the business houses were built of dressed lumber brought in by burro.

As time slipped by new mines were discovered and existing mines developed. But still the matter of inaccessibility remained. As late as 1917, with most hamlets in the United States linked by fast rail communication and all-weather highways, Jarbidge was still clinging to its precarious perch in Nevada's snow-bound attic. Nearest rail connection was at Rogerson, Idaho, and throughout the winter months citizens of Jarbidge having business at Elko, their county seat, necessarily made the trip by way of Pocatello, Idaho, and Ogden, Utah.

Among the men and women still living at Jarbidge are several who still recall those early days of isolation and hardship. One who remembers is Charlie Hawkinson who came to Jarbidge with a pair of pack burros in 1912 and has continued to live there through 43 years of good times and bad.

Charlie saw electric power brought to Jarbidge from a distance of 80 miles and a wagon road opened through to Deeth, on the Southern Pacific. He saw the Guggenheim interests move in; saw a newspaper established and a chamber of commerce organized; saw the town grow to 3000 inhabitants and spiral into fame as the greatest gold producing camp of that day in the State of Nevada.

And Charlie stayed on to see the big mines close down in 1942 by War Production Board order after the camp had assertedly produced between \$50,000,000 and \$60,000,000 in gold. With the major mines inoperative the population trickled away, stores and hotels and business houses closed, tunnels and mills collapsed and Jarbidge became another Nevada ghost town with a population of 23 old timers.

The Lost Sheepherder mine is still lost and somewhere on the mountain below it lies the headless skeleton that originally belonged to the skull that John Pence kept for so many years on the mantel in his ranch home.

But who had been the flesh-and-blood proprietor of that skeleton? Had it been some unmentioned partner of Ross' whom he had killed before leaving the scene? Had it been Ross himself? Or was it someone else?

These are secrets known only to Ross and, possibly, to Ishman, the sheepherder—secrets they carried to their graves.

Hassayampa Dam Disaster--1890

A 100-foot wall of water came roaring down the narrow canyon in the early hours of February 22, 1890. The dam had burst! Before the Hassayampa was back in its channel, 83 persons were known to have been killed and scores of others were missing. It stands as Arizona's worst disaster.

By I. H. PARKMAN
Photographs from the
Sharlot Hall Museum, Prescott

IN 1888 A DAM was completed across the Hassayampa River 60 miles upstream from Wickenburg at a place called Walnut Grove. Two years later this dam, constructed and owned by the Walnut Grove Water Storage Company, H. S. VanBuren of New York, president, was to play the leading role in the greatest disaster in Arizona's history.

The need for water to mine hydraulically the placer mines in the Walnut Grove area prompted the construction of the dam. Dam water was also used to irrigate approximately 500 acres of land below the dam. Wooden flumes were built to carry the water stored by the dam downstream to the placers. Because the country had considerable fall, water pressure developed quickly in the flumes.

The Walnut Grove Water Storage Company's dam was built between two sloping granite cliffs. It was 110 feet high, 400 feet across on top and 130 feet across at its solid rock bed base. It was constructed of loose rock and dirt encased with rock laid in mortar. At high water it backed up the Hassayampa to form a two-mile lake. To

handle overflow conditions a spillway 15 feet wide and eight feet deep was constructed near the top of the dam. Normally the Hassayampa in that vicinity is just a small babbling brook, but at other times, as is the case with all Arizona dry streams, it becomes an angry, roaring, rushing torrent, and a small 15 by eight foot spillway could not even handle a fourth of the water that comes down it.

Twenty miles below the big dam a smaller one was built to capture the runoff that was diverted and used from the Walnut Grove dam.

In the winter of 1889-90 an unusually heavy amount of snow fell in the Bradshaw mountains on the headwaters of the Hassayampa. This was followed by a warm rain in the latter part of February, 1890. Almost immediately the winter's accumulation of snow was turning into living water and every arroyo, swale and canyon became a mad, rushing stream. With these streams dumping their accumulation of water into the Hassayampa, it was only a short time before the big lake back of the dam was at capacity.

It soon became apparent that the spillway was far too small to handle the runoff. To make matters worse, it became clogged with trees and other debris despite tremendous efforts to keep it clear. In a matter of hours water began running over the top of the dam.

At 2 a.m. Saturday morning, February 22, 1890, the dam gave way with a mighty roar and a 100-foot-high wall of water went roaring down the canyon.

It took only half an hour for the water to reach the smaller dam 20 miles downstream.

This dam did not last any longer than it took the flood to hit it and the mad water went rushing on down the canyon, leaving destruction and death in its wake. The channel was swept clean to the mouth of the Hassayampa where it empties into the Gila. At 9:30 that morning the water reached the Buckeye Canal and spread out over the valley, flooding the old Evans home a half mile east of the channel with four feet of water. The new 30-acre alfalfa field on their farm was covered with sand and drift.

The river in the vicinity where Highway 80 now crosses it was more than a mile wide. It continued to spread out and when it emptied into the Gila it was two miles wide.

At that time the G. A. Roberts family lived in a house on their homestead just east of the Hassayampa-Gila junction. Hearing the distant roar, the Roberts boys, John and Oscar, started to the field to catch the horses, but the thunder of the flood frightened the beasts away. The family reached high ground north of their home just minutes before the flood crest hit. The peak of the flood passed in a few minutes, pouring its rushing waters into the already swollen Gila which was itself in flood at the time. A few hours later the Hassayampa was back in its channel.

Members of the Dr. J. P. Evans family were at home on their farm on the north side of what is now Highway 80, about a half mile east of the Hassayampa channel. They were not as fortunate as the Roberts family and the flood caught them before they could reach high ground. The men had to carry the women to high ground through waist deep water for almost

Rare 65-year-old photograph shows the Hassayampa Dam as it appeared during its brief life. View is downstream.



This companion photograph was taken shortly after the dam was washed out by the swollen stream. View is upstream.





Survivors of the Walnut Grove disaster. Photo taken a few days after the dam broke.

a quarter of a mile. Many other Buckeye residents were caught without warning for there were no telephone lines or radios to warn them of the approaching water. The consequences were tragic, for 83 bodies were recovered along the river's path. Many others were lost. The exact number killed in the flood has never been ascertained.

The one man who could have warned the residents downstream got only as far as Boulder Pat's Saloon, halfway between the two dams. When it became apparent that the dam might give way, this man whose name is not of record was dispatched on horseback to warn the people. He started three days before the dam broke. At Boulder Pat's he stopped for a drink and told the patrons there his news. They laughed at his information so, according to reports, he stayed on and got drunk.

The next morning he was seen riding into the swollen river and disappeared. According to reports he was never heard from again.

The greatest known loss to one family was suffered by the L. D. Haines family. The parents and four of their six children were killed. The two other members of the family were working in Phoenix at the time and it was from one of these survivors that I have supplemented my information on this disaster.

For two weeks after the dam broke the Arizona papers were full of the accounts of suffering and death.

The old *Phoenix Daily Herald* told the following stories:

"E. G. Wheeler, who at one time was connected with the Post Office Book store in this city was at lower dam on the Hassayampa and has not even been heard of. The merchant at

the Camp, Bob Brawl, lost \$4000 worth of stock.

"Deputy city treasurer Fleshman returned from the Hassayampa River disaster about ten o'clock last night (Feb. 27). Everyone in the party was haggard, stiff and exhausted from the journey. They witnessed many pitiful sights. Tuesday morning the party had reached Smith Mills where they found Ed. Scarborough and team safe and sound. Proceeding to Seymore, old mother Conger was found, naked and starving. Her store and every earthly possession has been swept away, including \$1500 in gold coin that was hid between the cloth ceiling and the shingles. They say the Hassayampa is swept clean from the upper dam to its mouth. Its canyon walls are ground smooth. Debris of all kinds, animals, provisions, buildings and trees are scattered everywhere. For the first two miles the water wall must have been 100 feet high. Thirty bodies were seen by the party including seven Chinamen and "Chinese Mary," a well known denizen of the Capital. Our Phoenix delegation met parties from Prescott, Congress and other localities, all united in the sad work of identifying the dead. In one grave six miles from Wickenburg, 18 victims sleep peacefully awaiting God's Judgment Day."

For many years after the flood bones of lost victims were found in the sand along the Hassayampa. As late as 25 years after the disaster a skeleton was found that was believed to have been that of John Silsbee, pioneer musician.

The property destruction was not great outside of the dam itself and the construction camps, for the river traverses desert country all the way down to its mouth. A heavy looser was Bob Brawl, a merchant in the canyon a short distance from the dam.

A safe belonging to him and containing \$5000 was swept down the river and buried under the sand. As far as it is known the safe is still out there somewhere.

Someday the dam will probably be rebuilt in order to conserve the water for irrigation—but it will be built of solid concrete with gates and spillways large enough to take care of any possible overflow. History has given a lesson too costly to ignore.

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SOUTHWEST CONCERNED OVER NAVAJO DRINKING PROBLEM

The Navajo Indian drinking problem has been receiving increased public attention since the Indians were given free access to liquor. Many people support the Gallup, New Mexico, Police Department's contention that the end of Indian prohibition is turning out ignobly. Others feel that there is less drinking now than during prohibition, but that the drinking is now out in the open.

Most all observers agree, however, that the situation will straighten itself out in a few years—that the present rash of public drunkenness is merely the logical outcome of the sudden lifting of the drinking ban.

Hundreds of Navajos crowded Gallup bars during the recent Indian Tribal Ceremonials. Two police wagons were kept on the run all during the festival, carrying away inebriated Indians. One police officer declared that more drunks were arrested in one night in Gallup than in the city of Chicago.

No one, it appears, has a complete picture of what is taking place as a nation of some 75,000 people finds itself suddenly able to buy beer, wine and whisky like anyone else. The Navajos themselves still prohibit the bringing of alcohol onto their reservation, however.

U. S. Commissioner Glenn L. Emons declared that "the Indians are still learning how to handle alcohol. Sometimes, in cases such as this, the situation gets worse before it gets better."

The Navajo language newspaper *Adahooniligi* reports that the Navajo Agency and the Navajo Tribal Council have protested a proposed move of a Gallup bar closer to the reservation. The bar has obtained permission for the move from the McKinley County board of commissioners pending its legality. Navajo leaders fear that there are not enough law enforcement officers on the reservation to handle disturbances that might occur at the bar.

HOME ON THE DESERT

Tamarisk in the Back Yard

By RUTH REYNOLDS

MY HOME on the desert never looked better to me than at the moment I took off by plane for a day-long flight eastward a few weeks ago. Except to my inner eye, of course, my house was not visible from the Tucson Municipal Airport, nor even from the sky above it. I could see the mountains though, encompassing the valley, and on the north the familiar Santa Catalinas. But as the airliner rose into the sky these landmarks drew away and changed shape so strangely that I hardly recognized them as my mountains that were always there, towering on my horizon and visible from several windows of my house which, as I now perceived it, appeared to be one of the world's finest—with 19 windows, including a large picture window in the living room.

As a matter of fact, it is a fairly, or—if I must admit it—a very ordinary house, with about 10 too many windows to wash.

So, detached as I seemed to be from time and space, I continued to look homeward, seeing things in a timeless, spaceless perspective.

I saw, among other things, a tamarisk tree that was no longer there. We'd gotten rid of it. To part with it was not easy, but how easily we had planted it—just by putting a stick into the ground and watering it.

Were we foolish to plant it when we did? I wonder. We didn't think so at the time. A tree—any tree—was priceless when the open desert stretched away for blocks on either side of us as it did then.

This tree was a priceless little thing the day we first discovered buds breaking through the bark of our "stick in the ground." How excited the children were! "It's going to grow!" They shouted and clapped their hands. They inspected it each day that summer—checked the growth of foliage as it appeared in feathery green tufts.

Almost before we knew it our tamarisk stick became a tree—not too strong a tree at first, and the wind,

whipping its fragile branches almost to the breaking point, gave us some bad moments.

Once after a particularly strong wind left it leaning to one side we worked for hours anchoring it with a guy wire. My husband drove a strong metal pipe deep into the ground and I ran a clothesline wire through a short length of old garden hose and we fastened the tree to the stake, with the hose protecting the tree trunk from injury by the wire.

I have since learned that one should keep young trees straight by using two or three guy wires, or by binding them to a stake with this garden hose device in two or three places. But with our tree already decidedly leaning, the one wire was enough to pull it back so that its trunk grew straight, and in time, tall. Its branches, pruned back in winter, were dense in summer and its foliage thick—and we had a shade tree.

What a joy it was in its day! But its day passed. The neighborhood eventually built up with houses on lots adjoining ours. Our neighbors planted trees and shrubs near by. We planted a loquat tree a short distance from it, bricked a raised terrace around the tamarisk and planted flower beds on two sides of the terrace—20 feet away from the tamarisk. But soon its roots, tunnelling toward the flower beds, raised the bricks until the terrace had a hills-and-hollows contour.

With its branches too high and its top too heavy, our tree had to go—before the wind blew it over on our neighbor's house or ours, taking, perhaps, electric and telephone wires with it.

A similar fate befell a cactus we planted a long time ago. It was a domesticated Burbank spineless "pancake" type. One leaf, set out practically on top of the ground, produced, within a few years, a plant of enormous size, growing 15 feet high and about as wide.

How many Eastern relatives of ours posed beside that cactus for snapshots to impress the folks back home!

Each spring it was covered with

A recent plane flight to the East served two purposes for Ruth Reynolds. Once off the ground she was able to reflect back on her garden in an objective manner—and her travels brought her to New York and Brooklyn where a greenhouse agave made the headlines.

beautiful lemon-yellow blossoms, and each summer its fruit would have filled a bushel basket. They were a luscious orange-red and almost as large as hens' eggs. Once I tried making jam of a few of them, proceeding as with other fruits or berries. It had an ambrosial flavor but a slightly scratchy, cactus feel to the tongue. Nowadays I often see cactus jam on the grocer's shelves. It looks much like mine and is probably made from the fruit of the same kind of cactus.

Our plant gradually reverted to its ancestral nature—became spined—as we discovered when its growth brought it to the edge of the badminton court and a guest player fell against it.

Now it is gone, and I miss it. It was so typically desert, and there is so little left on the premises that is native desert growth.

Speaking of desert growth, my recent travels led me eventually to New York City where I spent an afternoon in a sort of busman's holiday, tramping over a few of the Brooklyn Botanic Garden's 50 acres and ending up in the cactus greenhouse.

There James J. Franklin, assistant director of the Garden, pointed out some of their more unusual specimens, among which was a saguaro—almost 9 feet tall—which had come to them by way of the New York World's Fair where it had been exhibited in 1939.

The most sensational plant ever grown in the greenhouse, according to Mr. Franklin, was a Mexican agave—lately deceased—which, after the manner of century plants, suddenly in its 30th year grew a 15-foot stalk, bloomed and died.

In the desert this would scarcely be sensational, but in New York it created quite a stir. At the Garden its rapid growing was regarded with amazement and when it reached the roof of the greenhouse, a pane of glass was removed and the agave hurried through the opening to bloom in the July sun.

Accounts of the event and pictures of the protruding blooms appeared in the New York newspapers. It seems that when "a cactus blooms in Brooklyn" it's news—even if the cactus is an agave—member of the Amaryllis family and not a true cactus at all.



General view of the Papago family's camp near the giant saguaro forest. Mother Ventura, in foreground, tends to the jam making while her daughter Rosaria, kneeling, separates the seed from the saguaro fruit pulp. Another daughter, Virginia, walks into camp with her basket full of fruit and the long kuibit used for knocking the fruit to the ground. The men spend their time hunting game and gathering wood.

Saguaro Harvest in the Land of Papagos

When June comes, the Papago Indians of southern Arizona move to camps in the saguaro forest for their annual harvest. For the fruit of the giant cactus is one of their main sources of food and drink. It yields syrup, jam, dried fruit, ceremonial wine—and any residue goes to the chickens. The harvest is a traditional occupation that almost amounts to a ritual.

By CHARLES W. HERBERT
Photographs by the author

AS IF FLAUNTING the mid-summer heat of the Southern Arizona desert, the largest of all cacti, the giant saguaro, brings its rich red fruit to maturity while the sun blazes above.

And at the time of year when most of us, in spite of our loyalty to the desert, wish we could take off for the mountains and a cool fishing stream, the Papago Indians prepare to go further into the desert. Their New Year begins with the first ripening of the saguaro cactus fruit in June; their most sacred ritual, the rain-making ceremony, takes place after the harvest in late summer.

All adult members of the family go to the cactus forests where they gather

the ripe fruit and convert it into their year's supply of syrup, jam and ceremonial wine for the rain-making ritual.

I had heard of this age-old custom many times, but during my first 10 years on the desert I always put off visiting a saguaro harvesting. I knew it would be tough, going into 110 degree heat without protection.

Finally I gave in. I had to see for myself. I got in touch with the authorities at the Papago Indian reservation at Sells, 60 miles west of Tucson, and was invited to visit the Indians at their summer fruit-harvesting camps.

The Papago Indian reservation of 2,500,000 acres is typical Arizona desert, covered with cactus, mesquite, ironwood and palo verde. The word Papago is derived from *papah*, or bean, and the Papagos are known as the "bean people." They are traditionally agricultural and closely related to the Pima Indians.

The Apaches, Yaquis and the whites forced them from the more fertile valleys into the desert. They have adapted themselves to its meager pro-

ductivity and are a cheerful, contented people, living under extremely primitive conditions.

On the way to Sells I passed several typical Papago hamlets. Each is located where a certain amount of irrigation is possible, and their inhabitants raise a few livestock and some garden produce. A typical dwelling is a one-room hut of saguaro or ocotillo ribs plastered with mud. Roughly 16-foot wide and 20 feet long, the huts are windowless.

Each house had a ramada made of four upright posts roofed with brush and earth. Under this shelter are found the fireplace, grinding stones, ollas and baskets that make up the Papago's housekeeping equipment. They are expert basketmakers, weaving willow baskets that are tight and waterproof. Their traditional basket pattern is a large tray or bowl, creamy white in color with a woven black design. The black dye is one of the few true blacks found in Nature and is made from devil's claw pods. Papago baskets of various kinds are made to serve just

about every purpose of housekeeping—from containers to strainers.

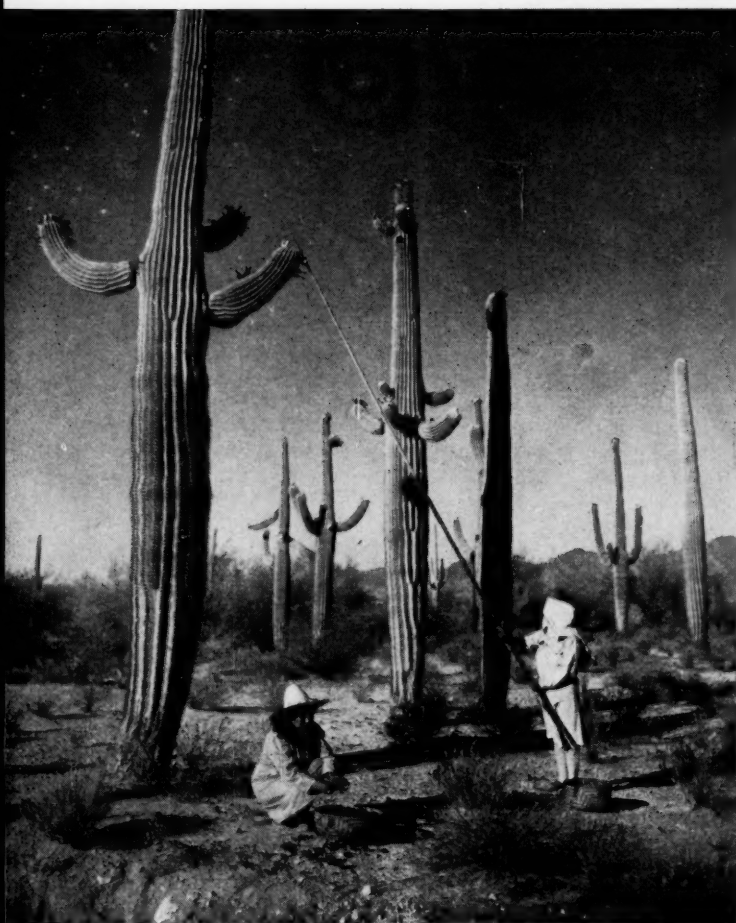
At Sells, the superintendent of the reservation had arranged with Tommy Segundo to accompany me as guide and interpreter. Tommy is a leading Papago and speaks excellent English. We started at daybreak for the trip into the desert where the saguaro fruit camps were located.

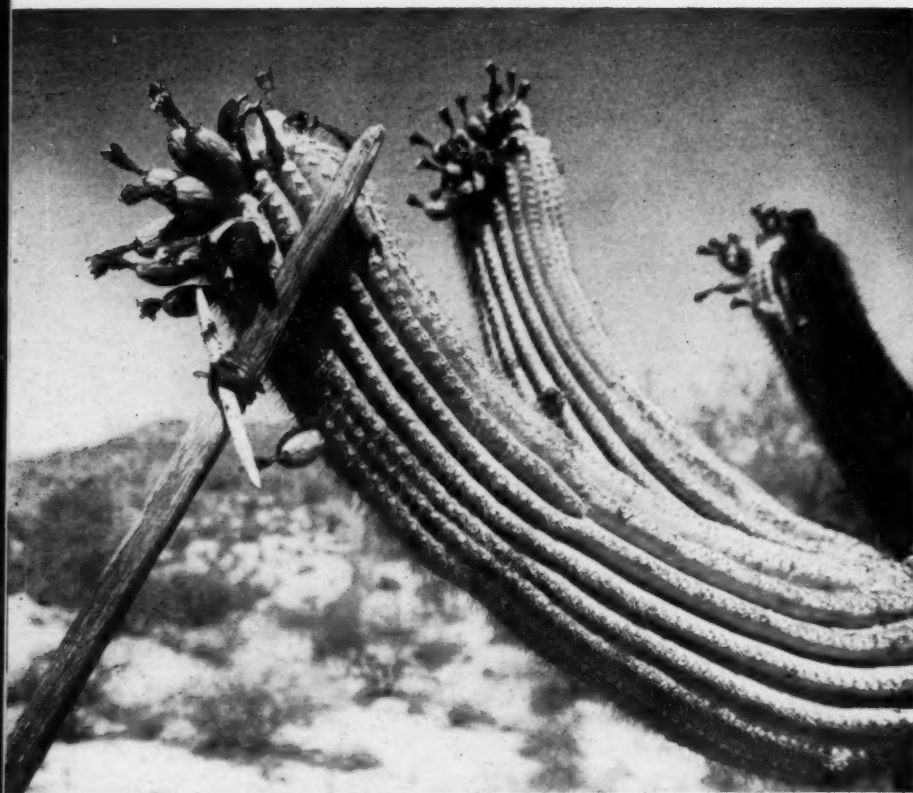
Our destination was Santa Rosa, northwest from Sells. This tiny community is the largest summer rancheria of the Papago and lies at the base of the Santa Rosa Mountains, about 40 miles from Sells. We knew we were seeing our last store, so we stocked up on watermelons, soft drinks and plenty of water.

An hour and a half of slow going over rough country brought us to a dense saguaro forest. Soon after entering the forest we saw two women gathering saguaro fruit.

They knew Tommy. He introduced me and explained that I wanted to take pictures and not to interfere with their work. After a fairly complicated discussion, they agreed.

Rosaria knocks down the fruit with her kuibit while Virginia gathers it from the ground, brushing off the sand and removing hulls.





Papago women deftly knock the ripe fruit to the ground with their kuibits without harming green fruit which is left on plant to ripen.

The older of the two women was Virginia Hillman. Her husband, John, is a Santa Rosa councilman, and they live in Santa Rosa village. With her was her sister, Rosaria Ventura, also from Santa Rosa. Like most Papago women they were reserved but friendly. They rarely smiled and were intent on getting their job done.

They made a good team. Rosaria pulled or knocked the fruit down and Virginia collected it in a basket.

Rosaria's tool was a long stick with a cross-piece. She told me it was called a *kuibit*, and that she made it from splicing together saguaro skeleton ribs using two or three as needed for the proper length. The *kuibits* vary from 15 to 30 feet in length depending on the height of the cactus they are used on. The crosspiece, she said, is called a *matsuguén*. It is securely fastened to the end of the *kuibit* and is used as a hook to pry the fruit loose.

At the tips of the trunk and arms of the saguaro the waxy white saguaro blossom appears each spring like a halo. As the bloom disappears the oval-shaped fruit develops

Rosaria was only knocking off thoroughly ripe fruit, and patiently she avoided damaging green fruit that

would ripen later. Sometimes she pushed the ripe fruit, using whatever method was best to dislodge it without harming its green neighbors.

She told me she tried to find only pods that had already burst open, although this was not always possible. If the fruit was ripe but the pod had not opened, she removed the whole pod. The ripe fruit is a beautiful scarlet color. Inside it there is a pulpy mass of heavy, dark brownish red, in which seeds are so thickly embedded that removing them becomes a chore for only the pulp is useful for making jam.

As the fruit was dislodged Virginia carefully picked it up. If only the rich soft center had fallen she shook it to free it from sand. If the hard outer hull remained she split the hull lengthwise and then scraped the pulp into her basket.

Virginia and Rosaria each had a basket. When both baskets were full — which took about two hours, for each basket held about 15 to 20 pounds of ripe fruit—they were ready to return to camp.

Tommy invited them to ride to camp with us, but they declined, and then gave us careful directions for reaching it. Every detail of the sa-

guaro harvest is governed by long-established tradition. It is almost a ritual. I suspect that the two women declined the offer of a ride back to camp because it was not in accordance with their tradition. Each picked up a basket of fruit, balanced it on her head, and carrying her *kuibit* in the other hand, walked toward the camp.

The camp was on a little ridge and there were several mesquite and palo verde trees nearby. A ramada of saguaro skeleton ribs provided the only shade, except for a piece of canvas draped over the household equipment piled together under one of the trees. Under the ramada were their *soungans*, or bedrolls, and other personal belongings of the family.

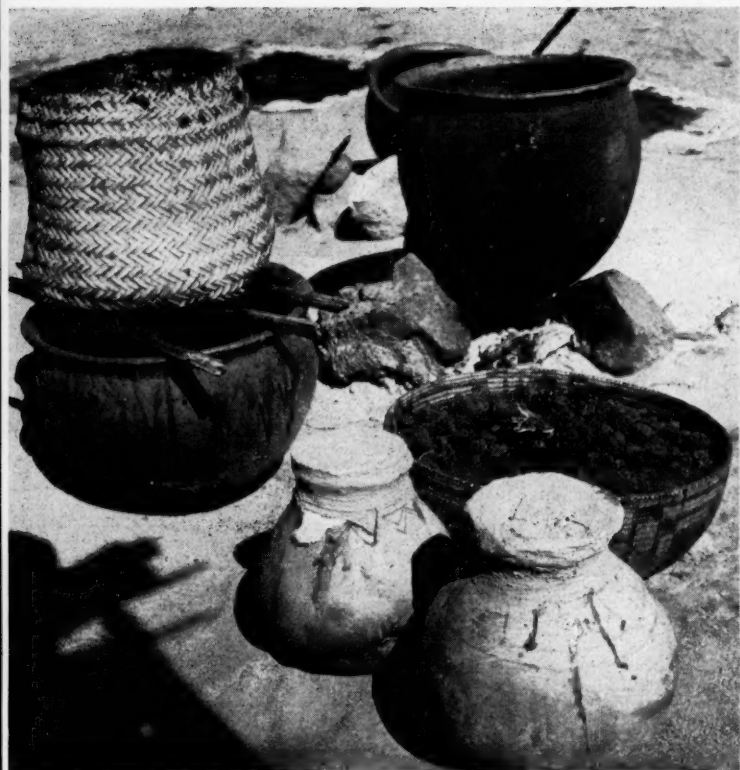
A horse and wagon were in camp as were the men. Tommy introduced us. They were polite but even more reserved than the women. They spend very little time in camp while the women harvest the fruit, coming in only for meals and to sleep. They spend their days hunting and for this camp-out they are responsible for providing mesquite and palo verde wood for the fires.

Keeping a supply of wood for the cooking and jam-making is a real chore because the fires are kept up from breakfast to nightfall. When we reached camp, Amelia Ventura, mother of Virginia and Rosaria, had everything in readiness. The outdoor kitchen where the jam was made was set up.

Virginia and Rosaria arrived soon after we did. Since this was their third trip of the day and it was now almost noon, it was time for lunch which would be followed by a long siesta. They courteously invited Tommy and me to share their potful of typical Papago rabbit stew and their strong black coffee. They refused to share our sandwiches, but were pleased when we offered them watermelon.

After lunch the fruit gathered during the morning was checked carefully to see that all the dust was shaken off and all stray spines removed. Occasionally one of the women would pick out a choice bit of fruit and eat it. The fresh fruit is delicious, and so sweet that no sugar is needed to make jam. When water is added to the fresh fruit the result is a sweet drink with a taste so distinctive that I cannot think of anything to compare it to.

Mrs. Ventura, as the matriarch of the family, was in charge of the jam making. To start it she mixed three parts of fruit to two parts water in the olla over the fire. She boiled this 15 to 20 minutes and then started dipping it out and pouring it into a loosely woven basket over another olla. The basket served as a strainer permitting only the juice to get through. This



Utensils used in processing the fruit—all earthen pots and baskets made by the Indian women.



Mother Ventura fills the earthen ollas with saguaro juice—to be used later as ceremonial wine.

juice was put back into the boiling olla and cooked slowly for four or five hours. It gradually thickens and makes a delicious syrup. Mrs. Ventura was able to make about one gallon of syrup a day.

While the syrup was bubbling, Mrs. Ventura arranged the pulp separated from the juice, on clean pieces of canvas spread out on the ground. The pulp and seed mixture dries for a day and then is carefully worked by hand to remove most of the seed. All the women work at this job. They have no benches and tables, but kneel on the ground and with great patience and care rub the dried pulp, finally working most of the seeds out. The seed is then roasted and ground up into a powder. Mixed with sugar it is a favorite Papago sweet. Seeds are also used as chickenfeed, Mrs. Ventura told me.

Mrs. Ventura was a strong-faced woman, severely featured and reserved. She volunteered no conversation, nor did her daughters, as they worked steadily at the hard, tedious job of making jam. But each of them readily answered my questions put to them in Papago by Tommy.

The pulp, after most of the seeds are removed, is allowed to dry for another day. It can then be stored as

dried fruit, made into jam or ceremonial wine.

To make jam Mrs. Ventura mixed the dried pulp with a little water and cooked it for about 30 minutes, stirring it constantly to make sure the pulp softened. The pulp swells and forms a soft gelatin-like mass which is dipped out and placed in another pot where it is vigorously beaten with a stick for over half an hour. It is then ready for final cooking.

Virginia, meantime, cleaned out the boiling olla, removing the sand and gravel that had settled at the bottom during the first cooking. Her mother poured some of the morning's syrup into the pot with some of the pulp. As the few remaining seed rose to the top they were dipped off. Every drop of juice from the sweet pulp is saved. Even the rinse water from the olla in which the pulp is beaten is used for thinning down the mixture as it boils. After a long, slow boiling, the mixture reaches a thick jam consistency.

Mrs. Ventura explained that if a family has two women to gather fruit and another to keep the fires and jam-making going, the family can, during a week in camp, produce eight gallons of syrup, two gallons of jam, and a potato sack full of dried fruit and roasted seed. This will last the family for several months. The rich

sweets are an important part of the family's diet, especially during the bleak winter months when there is little else except the results of the men's hunting.

Some of the syrup is used to make the ceremonial wine for the rain making ritual after the cactus fruit harvest. In spite of the heat, I was so fascinated by the jam-making and fruit harvesting that I was reluctant to leave. But Tommy and I loaded everything into the car and were ready to start back to Sells and Tucson when the motor decided not to run. I tried everything, but it would not start.

Without being asked, Mrs. Ventura, her two daughters, her husband and her son-in-law walked over and put their shoulders to the car. With a heave they got us started.

As they pushed us all of them were laughing loudly and it seemed to me they enjoyed giving us a shove more than they had enjoyed anything all day. As we slowly drove off they waved.

Mr. Ventura yelled something as we disappeared.

"What did he say?" I asked Tommy.

Tommy, too, was laughing.

"He said," Tommy managed to tell me, "that you should be a Papago. Then you'd have enough sense to own a horse."

Rock Trails in Chemehuevi-Land

NORMALLY GEORGE is an even tempered man, but he literally sputtered when he visited us after a rock hunt recently.

"Why, we've collected there for 10 years!" he said. "Rockhounds have dug and made roads enough to patent a dozen claims. This time we find the whole country plastered with new location notices and Private Property

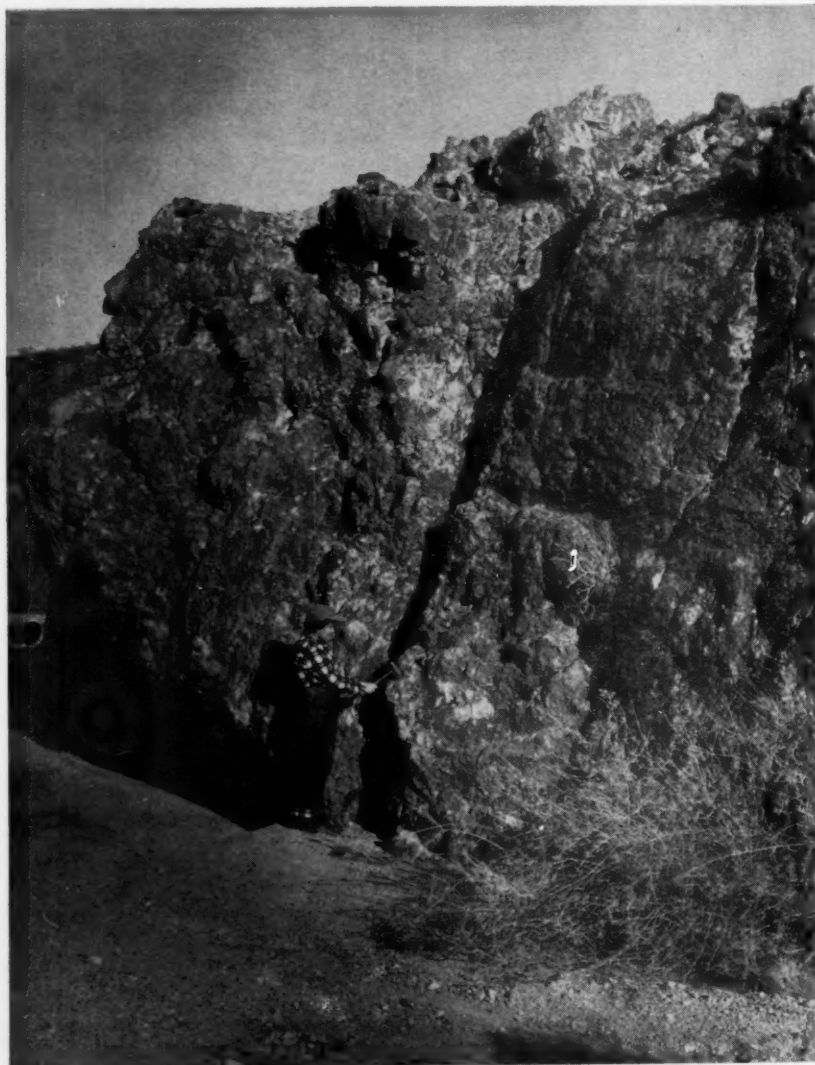
signs! But I couldn't find where these sparkle and click boys had done the discovery work to validate a single claim — even if there was uranium there. And I'll bet the only clicking those characters heard was in their own skulls!"

Lucile and I sympathized. Uranium fever, an epidemic in the Southwest, is a fine, healthy outdoor hobby and

What better way to celebrate a birthday in a family of rockhounds than a trip to the interesting Chemehuevi Wash area? That's exactly what the Weight family did —and they were well rewarded. They mixed the rocks they found with a bit of history, some beautiful desert scenery, pleasurable botanical observations and then to top it all off enjoyed a snack on the shores of a man-made lake.

By HAROLD O. WEIGHT
Photographs by the author
Map by Norton Allen

Viola Weight made the biggest discovery of the trip—an entire cliff of cutting grade rock.

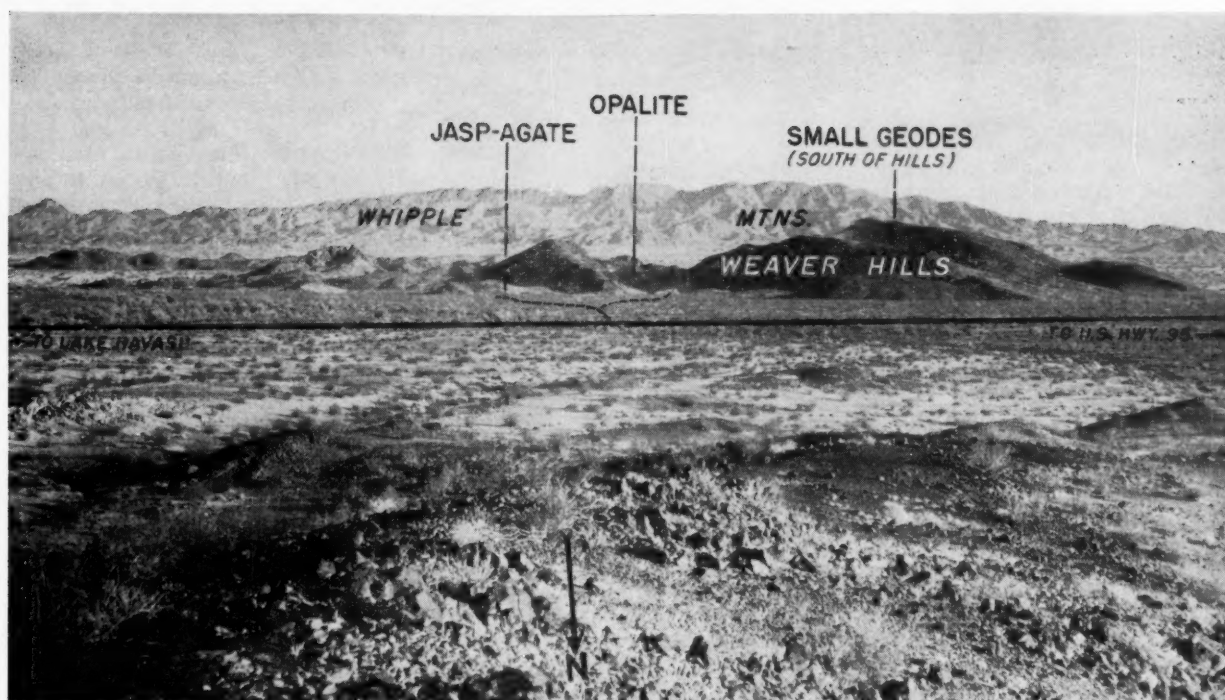


it quite possibly will result in some valuable discoveries. But it has attracted some "prospectors" who are looking for easy money rather than uranium, and they seem determined to stake out all of the once wide open spaces the Armed Services haven't grabbed. They move in wherever a possible uranium strike is publicized and locate the surrounding desert for a hundred square miles, with or without radioactive indications. I sometimes suspect they work in teams, with the head man carrying a piece of radioactive ore, the next one keeping close enough to get readings from it, and the others setting out stakes.

Some hunters seem not to have learned even the rudiments of the prospecting trade. Near Ogilby, California, Lucile and I found a small range of hills taken over by the simple process of posting dozens of Private Property signs, with no evidence of discovery work in sight. At Twentynine Palms, California, only with the family shotgun could a woman persuade uranium hunters to cease digging up and taking over land which she owned and on which she was living. In the southern Chocolate Mountains rival locators—who should have determined the status of the land in the first place—resorted to firearms and lawyers before they discovered their conflicting claims were on school land, not subject to location.

All mining booms have seen the get-rich-quickers. Old time mining men called them "paperhangers" from their habit of hanging location notices on everything in sight. The bitter amusement with which they were regarded is shown by the location notice dating back to Nevada boom days which Ray (Gumshoe Kid) Thaler told me of finding in the Rawhide district. It read: "I claim 10 feet east and 10 feet west. Diamondfield Jack claims all the rest."

The present "paperhanging" spree is the wildest in history because Uncle Sam will pay extravagantly for ore which normally could not be mined



The low, colorful volcanic hills in the Chemehuevi basin, once buried under the clays and marls of an ancient lake, are now a collecting field for rockhounds.

commercially; because lucky uranium finders have been given enormous publicity; because jeeps and radiation detectors have permitted thousands of inexperienced persons to become weekend prospectors; and because even experts sometimes misread their counters and scintillators.

But we rockhounds can take comfort in the fact that in the other excitements when huge areas were "located" with equal disregard of mining laws or realities, time has separated worthwhile claims from the worthless. Thousands of acres frantically filed on, either through ignorance or hope of speculative gain, have slipped quietly back into the public domain.

I saw ghostly reminders of such a forgotten excitement while rock hunting in the low volcanic hills in Chemehuevi Wash south of the paved Highway 95-Lake Havasu road, in the eastern Mojave Desert. These hills are spotted with monuments, some new but most dating back to World War I days. Nitrate was a magic mineral for the get-rich-quickers then. Nitrates were essential for explosives and fertilizers and we obtained our supply from Chile, a long haul in ships needed for other purposes. So the Geological Survey urged nitrate prospecting.

Nitrate was known to occur in Chemehuevi Wash, in and near the volcanic hills. It had been investigated and declared of no commercial value

by H. W. Turner in 1904. But with our entry in the war, and a rush of new prospectors to the desert, the USGS received reports of vast and rich deposits there. Twenty thousand acres running as high as 15 percent sodium nitrate—one solid bed of hundreds of acres with nearly five percent average calcium nitrate!

L. F. Noble, today noted for his studies of Death Valley geology, investigated the reports for the Geological Survey in a one week survey in August, 1918. He made more than 100 preliminary tests. Pits were dug for additional tests on 37 of these sites. He found only about 1300 acres in all that gave any promise of nitrates, and no sample from them gave more than three percent. Since the government was not giving total subsidies then, the nitrate boom in Chemehuevi Wash was over.

But Noble's geological findings are of interest to present rockhounds. The hills, he wrote, cover about three square miles and rise several hundred feet above the general level of the alluvial deposits of the Chemehuevi basin. They are composed mostly of volcanic rocks of Tertiary age—rhyolite, breccia and tuff—though there is some quartzite and gneiss, much older than the Tertiary. At some places along the base of the hills, strata of the lake-bed series—white chalky and greenish shale—crop out. The vol-

canic rocks form bold ledges and cliffs of a pockety nature. And a common feature of them is "a considerable amount of opalescent silica, or chalcedony."

Lucile and I hadn't read Noble's mention of chalcedony when we first passed those hills on the way to the Havasu boat landing, but we had a strong feeling there should be rockhound rocks among them. Sometimes such a hunch pays off and sometimes it doesn't, but we had no time to investigate on that trip.

In fact, our exploration of the hills in Chemehuevi Wash took place only last year. We remembered them when seeking a one-day excursion from Needles where my mother and my sister, Viola, live. The hills are only 35 miles south of Needles and all but the last mile of the road is paved. Paving of the lake branch was completed in 1952, due in no small part to vigorous efforts of the late Sylvan E. Williams, editor of the *Needles Desert Star*, who insisted the lake should be made more accessible to the many fishermen who visit it, and to vacationists.

A striking feature of the upper Chemehuevi basin, where the Havasu road branches from Highway 95, 21½ miles south of Needles, is a beautiful and healthy stand of ocotillo. David G. Thompson in *The Mohave Desert Region*, published by the U. S. Geological

Survey in 1929, reported this as the only locality in the Mojave Desert where ocotillo had been observed. I believe there are a few plants farther north, but no such extensive group as this. Ocotillo is more at home in the Colorado and southern Arizona deserts. But, as Thompson also notes, Chemehuevi Wash and Valley mark the northern limits in California for the palo verde, another southerner. And Ed Rochester once told us he had seen ironwoods—those lovers of frost free climates of the lower deserts—there.

At 10.1 miles from Highway 95, the Havasu road passes under a big powerline, and we could see that the line's maintenance road apparently headed right into the low volcanic hills to the southeast. Other prospecting and rockhound-type auto trails branched south from the lake road, and we took one at 12.4 miles which showed evidence of having once been bladed.

So far as I have been able to dis-

cover, these colorful volcanic hills we were approaching do not have a map name, nor have I heard of one for them. I am going to suggest that they be called Weaver Hills. Few people seem to know of Pauline—or Powell—Weaver's intimate acquaintance with Chemehuevi Valley. Too few people, in fact, know anything about Weaver although as guide to the Mormon Battalion and other early government expeditions, trapper, friend of the Indians, mediator between them and the whites, and first American resident of San Geronio Pass, he played an important part in Southern California history.

Weaver spent what were probably the happiest days of his life living with the Indians in Chemehuevi Valley. He married a Chemehuevi woman—the daughter of a chief according to his biographer, Sharlot Hall. His only son, Ben, was born of that marriage. Pauline moved on, in time, to his place in history, and Ben was killed by Indians in Arizona while still a young

man. But it seems to me some recognition of their connection with Chemehuevi Valley would not be amiss.

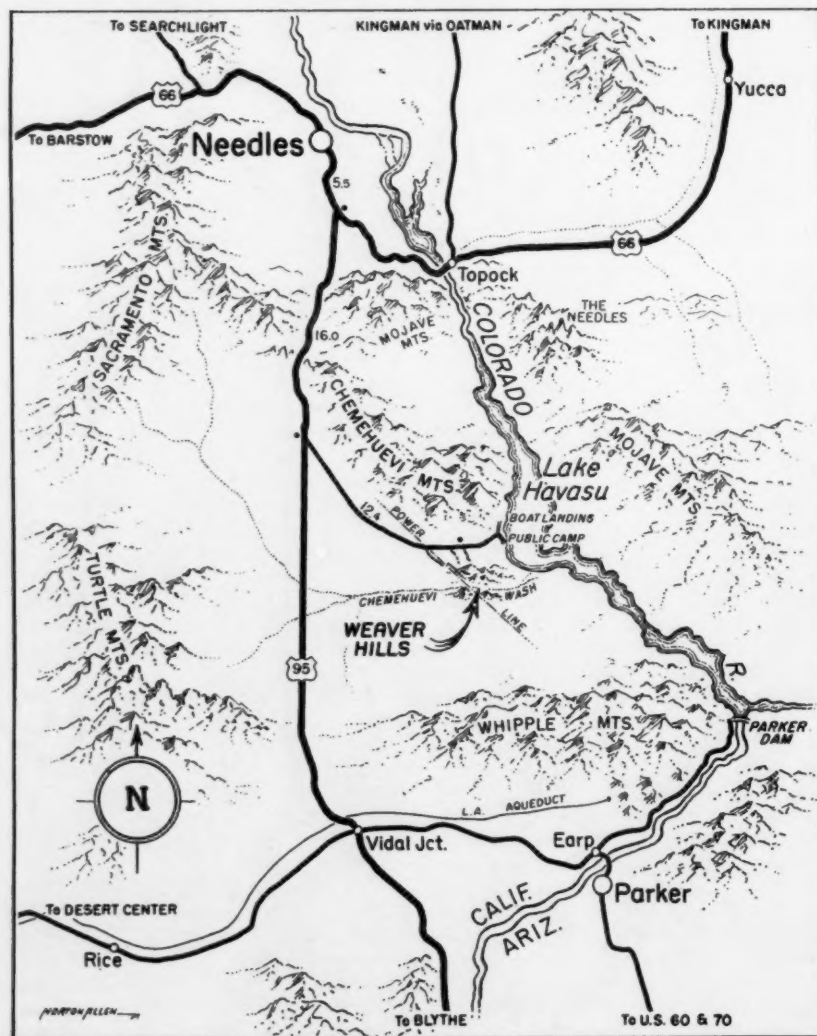
Our road led down a flat dark tongue of land and we came to the edge of a little wash less than a mile from the Havasu paving. I hiked across and on a slope of the hills beyond almost immediately found scattered pieces of a sort of jasp-agate and of jasper. Some was banded, some patterned and some with moss. Most of it was red to brown in color, but there was some black and white and a few green specimens.

A day of hiking over the rugged buttes and mountains and through the sandy washes, lined with palo verdes and a scattering of mesquites and smoke trees, uncovered quite a variety of cutting rocks—and a number of delightful campsites. The rocks were widely scattered. The biggest discovery was made by Viola who found a whole cliff of translucent reddish and white patterned rock, possibly a breccia, the whole of it of polishing quality which would make colorful bookends or other large pieces. Our principal trouble came in breaking large pieces off. In an area of volcanic ash at the southern edge of one canyon we found a quantity of plates and nodules of banded and patterned opalite in whites and browns and pinks and yellows, some of good cutting grade.

Our collecting sacks were full when we headed back for Needles, but we enjoyed ourselves so much that we made a return trip early this year to celebrate Mother's 76th birthday. A rockhunt seemed ideal for the occasion, since Mother was a rockhound even before I was, and still has the fever.

This time we followed the powerline south to the edge of the main Chemehuevi Wash where a sign warned: "Enter At Your Own Risk." The wash here violates normal erosional regulations by cutting its way directly through the hard rock of the volcanic hills rather than seeking an easier route around them. Noble believes the stream must have established its course while the hills were still buried in the lakebed deposits, then continued to cut its way down as the hills became exposed.

We wanted to see what the south side of the main hills had to offer so we headed back up the first wash draining that section. This side wash was floored with clean sand and gravel, but palo verdes soon made travel up it impossible, even with four-wheel-drive. We got out and walked. Farther up, large mesquites showed evidence that they had sheltered generations of desert travelers. Under one Lucile found a few ancient potsherds and rock chips.



The same types of material were scattered through these hills and over the mesitas as they were on the northern side, but in lesser quantity. Lucile also found some chalcedony roses. And in a light whitish and pinkish area against the hills, evidently what Noble had tentatively identified as either a fine-grained silicified rhyolitic ash or altered rhyolite, I discovered a scattering of small crudely shaped coarse-matrixed geodes. In the centers of the better ones were slender, beautiful quartz crystals up to an inch in length.

We decided, before turning back, to explore the big wash at least to within sight of Lake Havasu. It proved to be a regular nursery for thousands of healthy young smoke trees. There were big ones, too, and mesquites decked with mistletoe, and magnificent palo verdes. There were so many trees it was necessary to search the wash in many places for passageway through them. In one spot, a pocket among the volcanic cliffs on the north side of the canyon, we found two palo verdes in golden bloom although it was only February 1. Apparently their location afforded them both direct and reflected light and heat. The beaver tail cacti were in bloom all over the hills when we had made our earlier trip, the March before.

Through the hills and within sight of the lake the sand became so soft and deep we foresaw slow going even in four-wheel-drive so we turned back. It was nearly dusk when we reached the paved Lake Havasu road again. We turned toward the lake and a short distance above it we passed



Small geodes, some with slender quartz crystals an inch in length, are found in this beautiful shallow wash at the southeastern edge of the hills near Chemehuevi Wash.

through a section of the familiar Colorado River pebbles which furnish interesting and varied collecting for rockhounds.

The road divided where the pavement ended and nearby was a sign informing us that we were at the edge of the Colorado River Indian Reservation which is also a wildlife refuge. Uplake the road led past many private

homes and establishments. We veered right over a little rise and down a steep pitch into a public campground and beach. There were a number of individual campsites each provided with a concrete table and benches, and a fireplace, and furnished a little privacy by tamarisk, arrowweed and creosote bushes. Most of their occupants, obviously, were fishermen.

Lunch at the public campground beside the blue water of Lake Havasu. The ancient villages of the Chemehuevi lie under the water of this lake, which stores part of Los Angeles' drinking water.





Harold Weight's mother, a long-time rockhound, celebrated her 76th birthday with a collecting trip to Chemehuevi Wash.

We picked an empty table at the edge of the lake and had coffee and an evening lunch. The cool breeze, lifting off the broad waters backed up by Parker Dam, made the coffee comforting, indeed. But we could not escape from a sense of unreality. Minutes before we had been collecting rocks in dry and barren desert. Here wildfowl rested on the wide blue waters and gulls floated lazily above.

Out there beneath the quiet waters of the great bay lay what once was the heart of the Chemehuevi nation when Garces walked this way in 1776. "They came down to me with the speed of deer," he wrote, "and regaled me with very good mezcal. The garb of these Indians is Apache moccasins, shirt of antelope skin, white headdress like a cap with a bunch of those very curious feathers which certain birds of this country have in their crest."

The first American expeditions found the Chemehuevi here, growing corn, beans, squash and melons in their little overflow gardens at the edge of the river. Lt. Ives, exploring the river in his clumsy steamer in 1858, reported trading with them:

"Last evening about two dozen brought baskets and earthen bowls of corn and beans. I saw they had come prepared for a long haggling, and I made them place their burdens in a row on some boards that were laid out for the purpose; asking each in turn whether he preferred beads or manta, I placed what I thought a fair amount of the desired article opposite the proper heap of provisions.

"The whole tribe had crowded around to look on, and their amusement, during this performance, was extreme. Every sharp face expanded

into a grin as I weighed the different piles in succession in my hand, and gravely estimated their contents; and when, the apportionment being over, I directed two of my men to bag the corn and beans, and coolly walked away, the delight of the bystanders, at the summary method of completing the bargain, reached its climax and they fairly screamed with laughter. A few of the traders seemed not to understand why they should have had so little to say in the matter, but having been really well recompensed, according to their idea of things, the tariff of prices was well established, and this morning, when fresh supplies were brought, they received the same rate of payment without question or demur."

The same procedure Ives set for dealing with the Chemehuevi was followed, in effect, when Los Angeles decided to store its drinking water in their valley. The Chemehuevi were given what was considered a fair price, and their immemorial homeland was flooded.

And so today automobiles drive on paved roads to the very edge of the lake and campers light gasoline stoves to warm canned and packaged pre-cooked foods to be eaten at neat concrete tables. And as we looked across the deepening blue of the lake a white launch, glittering in the low sun, raced among the resting waterfowl. They rose swiftly and noisily into the air. The launch passed on. The ripples died away and vanished. The smooth surface of the white man's water tank stretched, featureless, to the silent desert hills. Even so the way of life the Colorado River Indians once enjoyed here has vanished as if it never had been.

But go back up a few miles from Lake Havasu into the quiet palo verde shaded washes of the Weaver Hills and you still can find the traces of their hunting trails and camps and weapon making. And these traces look no older than the monuments and prospect holes of the brief but fevered nitrate rush of 40 years ago.

The greenish clay banks and hills remind us that Havasu is not the first lake in Chemehuevi basin. A vastly greater lake than the one Los Angeles has gathered, came and went ages before man walked the earth. Perhaps some of the peace we find among desert hills comes from the knowledge they have existed long enough and will exist long enough so that against their time scale we can place such things as uranium rushes and bomb threats—and even mankind itself—in proper perspective.

LIFE ON THE DESERT

Rare Bird of the Santa Ritas

By DOROTHY W. ALLEN

FROM 1951 through 1952 my husband was in charge of sinking a large prospect shaft at the old Compadre mine in Josephine Canyon in the Santa Rita Mountains south of Tucson, Arizona.

Water was flowing in Josephine Canyon Creek that year. Our camping spot was a delightful oasis of cottonwood and sycamore trees. Here, far removed from other habitations, we had an excellent opportunity to observe the wildlife of the mountain wilderness. There was always something interesting to write home about.

Here is a letter I wrote June 18, 1952:

Dear Dad: The bird book you sent has been very valuable. These practically uninhabited Santa Rita Mountains are a wonderful natural aviary. The birds are conspicuously marked, barred and colored. This is true also of the many insects—a fantastic world in itself. In certain cases this would seem to be an attempt to mimic the brilliant sunlight and shadows in contrast, like the stripes of a tiger.

These rocky canyons have wonderful acoustics which the birds doubtless enjoy, especially in the cool of the morning and evening.

A mocking bird, with his checkered tail sits on a high post with one eye on me and listens to the feeble and inferior twitterings of a distant rival. In the course of his song he gives a fair imitation of all the bird calls for miles around. He is his own phonograph record. You often wish you knew what musical genius invented some of his outstanding utterances.

There is another extraordinary bird living here. Our miners reported that some people with a lot of equipment came by the camp looking for a bird with the strange name of Trogon.

Old Sam White, a half blind retired railroad man, who owns the claims next to ours, told one of the miners that this bird has been seen here in past years. It was just the prettiest bird you ever saw, all black and red and copper colored, its call sounds like that of a turkey. My husband said he had seen one last year right above the mine. It looked to him like an exotically painted road runner, but he

Trogon Ambiguus Ambiguus is one of the rarest of all Southwestern birds. Few persons have seen this brightly colored desert mountain recluse. Some say the Trogon looks like a parrot—others tell you to look for a "painted road runner," but all agree that its call is akin to a turkey's. Dorothy W. Allen became interested in Trogons when she learned that a neighbor in the Santa Rita mountains had seen them in their canyon. And then one day she heard one outside the cabin door . . .

had not paid too much attention to it. A queer looking paisano, that's all it was!

Then we found an account in your bird book accompanied by a tentative drawing, as though the artist had never seen the bird. The bird, *Trogon Ambiguus Ambiguus*, was described as being about a foot long, dark glossy green on the head and upper parts, rose red underneath with a white band separating the red part from the dark head. The tail is copper colored, square tipped and long. Its profile resembled a parrot's and the female was browner and duller in color. The bird's song was a series of low notes, "Kowm-kowm" like a hen turkey's. It lives right here, in the mountains of southern Arizona! Privately I wondered if we hadn't been hearing it all along, just another of many unidentified sounds.

One day the limousine of a group of ornithologists came splashing across the creek, ladders fixed on top along with a big telescope. They "looked like they came from the university" the miners said. They wanted to know if the Trogons lived around here. They said they had ridden a thousand miles and tramped nearly a thousand more looking for the bird. I sent them to old Sam White, our Trogon authority. He evidently told them what he knew because later in the day we rode down a byroad in a jeep to see the Silver Queen prospect and found them patiently parked under an old cottonwood with a blasted top, where Sam declared the birds, to his positive knowledge,

regularly nested. At the end of the day they left the country without seeing the Trogon.

On Thursday my school teacher friends came out from Nogales bringing with them another visitor, a red-headed girl from Idaho, also a teacher. She prospected during her vacations and is a Nature lover. She easily became enthusiastic over Trogon watching. I took her to an old tunnel to collect peacock colored specimens of copper pyrite from the ore heaps. She was hopeful of encountering the Trogon. Here she heard the song of the Canyon Wren, a prolonged graceful utterance by a finished musician that lifts the heart with pure joy! She was told it takes the young birds time and practice to perfect this song. We had noted many an untuneful and badly flatted crescendo of baby efforts before these rocky walls echoed the aria with accuracy. These wrens are extremely friendly and love to hear the sounds around a mine. She was shown one of their nests, uncovered by merely opening the door of the switchbox at the tunnel's entrance. Here the little ones could enjoy the human voices, the motors, and the rush of dumping rock.

One of the miners on the late shift came over the hill on his way to work and at our request provided us with carbide lamps, then conducted us through the tunnel. Once around the bend it was dark, damp and cool—a great contrast to the outside summer day.

Later, seated outside our aluminum cabin, we enjoyed lunch served around the friendly cake of ice our guests had thoughtfully provided. The leaves of the big sycamores drooped with the heat. Suddenly we thought we heard the Trogon! We couldn't be sure because we had never seen it, never heard it, and could see no bird at the moment. I couldn't be sure it was the Trogon, but the girls were electrified and refused to consider themselves disappointed.

That evening after supper we went up the road to visit Sam White to play a game of rummy. His adobe was about a mile and a half away. Here he cultivated peaches, apples, blackberries and corn. Incidentally his were the only blackberries I ever saw in the Santa Ritas where there are neither

berries nor roses. He watered his garden with a system of pipes that tapped a rock reservoir in the creek. Inside the cabin the walls were hung about with gay calendars of other years, layers deep. Sam loved to sit in his kitchen with his coffee in the morning to watch the sun light up the junipers and white quartz veins on the hill. Here, he claimed, he watched the Trogons moving here and there uttering peculiar clucks.

Next morning I was asked to put off the Trogon hunt for we had to leave

for Nogales. We finished our business in the cabin. I was writing payrolls while my partner made out checks for the men.

Then . . . there it was . . . the Trogon call!

The sound was moving down Josephine Canyon! Suddenly I found myself outside, jumping over rocks—following the sound.

I now heard two birds "kau-kauing." The Trogon must have found his mate and was escorting her to the nesting

place as Sam said he did every year at this time. But, I couldn't see them clearly so finally went back to the cabin to finish my work.

Then I heard the call again—right outside the cabin door!

Bang! went the stool. Bang! went the door—I ran out yelling. But the bird was probably used to us and our noise after all these months. It flew by overhead in a leisurely way—scarlet rosy feathers and copper tail gleaming.

I had seen the Trogon.

THE *Desert* MAGAZINE CLOSE-UPS

Charles Herbert, author of this month's "Saguaro Harvest in the Land of the Papagos," has acquired an international reputation for his work as a documentary cameraman. His fine work with the camera is beautifully indicated on this month's cover.

Herbert started to write in 1940 after he showed some of his color photographs to the *National Geographic Magazine*. Editors of that publication

told him that they would buy the photos if he would write the story that went along with them. He did and it was his first article sale. Since then he has written many more feature stories and articles including many technical articles for the photography trade. Herbert heads Western Ways Features, a Tucson, Arizona, concern specializing in photography.

Mr. and Mrs. Herbert make their home in Tucson but spend their summers at their Montana mountain cabin.

* * *

I. H. Parkman, who wrote "Hassayampa Dam Disaster—1890" in this month's issue, is a real Western old-timer. He was born in Kentucky in

1880 and at 13 years of age moved to Phoenix, Arizona. Two years later, in 1895, he moved to Buckeye where he has remained ever since.

His writing career began in 1905 when he became a correspondent for the old *Arizona Republican*. He has continued this line of work off and on for the last 50 years. In 1934 Parkman organized the Buckeye and West Gila Valley Old Settlers' Union and served as that organization's first president. He was re-elected to this position several times. Also serving as Historian for the Union, he began collecting stories of the pioneer days.

Parkman has been very active in the Boy Scout movement and during his lifetime has been a ranch foreman, rancher, Justice of the Peace, Postmaster and businessman.

* * *

Although she has chosen birds for the subject of her first *Desert Magazine* story, "Rare Bird of the Santa Ritas," Dorothy W. Allen believes without reserve that "no matter how impressive the scenery or the resources or weather of this mysterious Southwest, the people are the most extraordinary fact of all."

This was proven to her during a six-month stay at Arivaca, Arizona, where as a member of that nearly nonexistent community she contributed to their newspaper and served as secretary of a local service club. "It only takes time and patience to absorb the local tempo and to find, somehow, you have a personal stake in what is going on."

Mrs. Allen has lived most of her life in the San Francisco Bay Area. She is presently a resident of Napa, California. Her husband is a mine operator and prospector, exploring the mountain states at present. They have two children each with families, their daughter lives in Maine and their son teaches school at Pt. Reyes, California.

Mrs. Allen classifies herself as "a housewife with secretarial experience." A housewife traveling around with a friendly eye on plants, animals, earth and local people and their interests.

Picture-of-the-month Contest . . .

Month after month and year after year camera artists find the Desert Southwest a most cooperative subject to work with. If that ornery pack rat refuses to come out of his burrow to pose for a picture there's a creosote bush nearby nursing a brood of wildflowers or a mourning dove feeding its young or a lonely shack leaning away from the wind—and hundreds of other picture possibilities that the cameraman will want to take home with him. *Desert Magazine* readers would like to share the best of these scenes with you. Two prizes are offered each month for these pictures.

Entries for the November contest must be sent to the *Desert Magazine* office, Palm Desert, California, postmarked not later than November 18. Winning prints will appear in the January issue. Pictures which arrive too late for one contest are held over for the next month. First prize is \$10; second prize, \$5. For non-winning pictures accepted for publication \$3 each will be paid.

HERE ARE THE RULES

- 1—Prints for monthly contests must be black and white, 5x7 or larger, printed on glossy paper.
- 2—Each photograph submitted should be fully labeled as to subject, time and place. Also technical data: camera, shutter speed, hour of day, etc.
- 3—PRINTS WILL BE RETURNED WHEN RETURN POSTAGE IS ENCLOSED.
- 4—All entries must be in the *Desert Magazine* office by the 20th of the contest month.
- 5—Contests are open to both amateur and professional photographers. *Desert Magazine* requires first publication rights only of prize winning pictures.
- 6—Time and place of photograph are immaterial, except that it must be from the desert Southwest.
- 7—Judges will be selected from *Desert's* editorial staff, and awards will be made immediately after the close of the contest each month.

Address All Entries to Photo Editor

The Desert Magazine

PALM DESERT, CALIFORNIA

Pictures of the Month

Badger

First prize in this month's contest goes to photographer Adrian Atwater for his growling badger—and well the animal might growl for Atwater had to chase it "half way across the desert" before it consented to pose. Atwater, a resident of Carson City, Nevada, used a 4x5 Speed Graphic, Super XX film, 100 at f. 11.



Mesa Temple

This striking photograph of the Church of Jesus Christ of Latter Day Saints' temple at Mesa, Arizona, was judged second prize winner. It was photographed by Willard Luce of Provo, Utah, using a Graphic View camera, Super XX film, orange filter, 1/10 sec. at f. 32.

ON DESERT TRAILS WITH A NATURALIST - XX

Desert Hunter-Shy and Deadly

You may spend a life-time in the desert Southwest without getting a glimpse of a wildcat at large, yet they are to be found in many of the more remote areas. Deadly in pursuit of smaller game, the wildcat, or bobcat—they are the same—has an instinctive fear of man and unless cornered will not fight. Dr. Jaeger shares the view of many other naturalists that in their native habitat they should be protected.

By EDMUND C. JAEGER, D.Sc.
Curator of Plants
Riverside Municipal Museum

LAST MONTH a man came to my door with the report that he had a genuine Canadian lynx at his desert hide-out in the rocky, brush-covered hills near Victorville, California. He begged me to come out and see it for myself.

"Yep, a real Canadian lynx and there's no doubt about it. Some of the neighbors say he's only a bobcat, but sure as I'm livin' I know he's a northern lynx 'cause he's got real whiskers on his ears. Yessir, that animal's been sitting up on a big rock each evening at sundown for over a week now."

The man talked about his cat with such cocksureness that I did not feel I dared to let him know how very much I doubted him.

I decided to let him show me whatever he had to offer. Here, I thought, was another chance to see a big desert bobcat.

I arrived at Dick Jones' place just a little before six in the evening and we were soon on our way to see the big lynx. We hid out in a blind behind some sumac bushes and it wasn't long before I heard Dick whisper in animated tones, "Here he comes. Isn't he a beauty?" I raised my binoculars and one careful look confirmed my belief that we had before us no Canadian lynx but only a good sized male desert bobcat. He had tufts of hair on his ears all right, but not nearly long enough to be those of the northern lynx. Moreover, when the animal turned to walk away I could see that the five-inch stubby tail was black only on the top of the tip. If it had been one of the forest dwelling cats of the far north country its tail would have shown a tip that was circled black. In addition the cat would have had much larger paws and stockier legs.

My identification was, I know, a disappointment to Dick. I assured him that he was not the first man that had called me in to settle an argument about the identity of desert wildcats, and since my host was an honest inquirer

for truth I took a little extra care to explain the whole matter of differences to him. Then I drew two maps to show him how different in general is the range of the two animals.

The desert regions of the southwestern United States and northern Mexico are occupied by a bobcat of paler coloration than that of the more humid areas of the Pacific coast. It is often called Bailey's Bobcat by the serious students of mammals because of its scientific name *Lynx rufus baileyi*. The specific name rufus means reddish and was given because of the reddish-brown tinge of certain parts of the upper pelt of the animal originally described. *Baileyi* honors the able explorer and student of mammals Vernon Bailey, for many years field naturalist for the U. S. Biological Survey and author of many publications on birds and mammals. The frequently used name, wildcat, is well deserved for here is an animal which is not capable of ever being truly tamed. Bobcat is a name given because of the animal's short tail.

Every now and then I find people who think that bobcats and wildcats are quite different animals. According to them bobcats live in the low hills; but when they live in the mountains they are called wildcats. Such talk reminds me of an old desert man who declared that when "a certain grass" grows along the edge of water it should be called Bermuda grass but when occurring out in the open it should be spoken of as devil grass.

There are other common errors about bobcats: One is that bobcats are crosses between the big northern lynxes and domestic cats; the other is that the males should be called bobcats whereas the females should be called wildcats. It is a satisfaction to me that most of my knowledge of wildcats has not been acquired by reading books on wildlife but that it has been gained largely by personal observations of these crafty hunters of the wild.

I once watched for some weeks the development of a family of three kittens. I first saw them shortly after they had opened their eyes and were so small that except for their somewhat larger size and stocky build they looked much like domestic kittens. The mother usually brought them out of the rock-covered den each evening at dusk and I watched as they cleverly played with one another or lay upon a big flat rock and fed at her breasts.

Once I saw her leave and return 20 minutes later with a freshly killed squirrel. This she dropped before them and soon they were sniffing and pulling it about. The rodent was eventually eaten by the mother, the kittens being yet too young to eat flesh. As the days passed I could see steady development of the play instinct along with evidence of gaining body strength. Before I left the vicinity both mother and kittens were going out together on the evening hunts.

Later I witnessed the exciting spectacle of the mother cat catch a gopher one early morning as I walked along one of the well established animal trails. I first saw her some distance ahead lying prone on a slight rise of ground. I stopped and noted she was looking intently at a pile of loose earth four feet before her. Not long afterward she rose in an expectant and tense springing position. It was very evident that she was now seeing the gopher coming up to the entrance of its hole with a load of loose earth. A moment later the cat leaped forward, thrust her right paw into the burrow and adroitly brought out and pounced upon her prize. Then she bit it several times and carried it off, probably to her kittens.

I have reason to know that when pressed with need for escape wildcats are not wholly adverse to swimming. Once I had the extraordinary experience of seeing a much surprised and frightened animal leap into the water and make its way across a shallow lagoon on the western edge of the Colorado River.

With interest not unmixed with some fear I once witnessed the mating antics, or, as the Germans say, the *liebespiel* or love-play of two desert lynxes. It was an alley cat performance done in best and most furious wildcat style with yowling cries and growls, most extraordinary wailings, hissings, spittings and menacing mo-



Unless unduly surprised, bobcats are not a serious threat to man. The fierce animal above is 40-inches long and its yellow-brown fur is marked with black. Western Ways photograph by Peter Balesteriv.

tions. It was about midnight and at the time of a brilliant moon and I watched the whole half hour performance from my camp bed on the ground. I didn't move much and I do not believe the pair ever was aware of my presence.

Bobcats are secretive animals and the number seen is seldom a true indication of their abundance in any area. Wildcats are silent, stealthy and courageous hunters keeping in the brush and rocks most of the time where they find the largest populations of brush rabbits, small rodents and birds. When they wander into the vicinity of ranches they quite regularly eat house cats and in forested areas have been known to kill deer by jumping onto the neck and biting into the jugular vein. But it is generally the young, the diseased and weak or the small deer that they get. Bobcats stalk and kill quail too but here again it is the generally sick and weak ones that they weed out. I do not believe they stand too much chance of catching the highly alert healthy, active, adult birds.

Occasionally these animals are real problems to farmers who find them raiding their poultry pens and killing chickens and other fowl in unusual

numbers, seemingly for the mere love of slaying. The thirst for blood sometimes leads them to killing lambs too. Under such circumstances doing away with the animal murderers is justifiably in order.

The wildcat population is declining due to constant trapping and hunting. Most hunters, especially youthful ones, consider the animal a special prize. Just mention wildcats and they're ready to take off immediately with rifle or shot gun. Often they rationalize and justify their actions by declaring that wildcats are very dangerous animals to have about and that they are

Of the five species of the cat family found in the Southwest, the bobcat is by far the most common. The jaguar, mountain lion and ocelot are all larger than the bobcat, and the rare jaguarundi is about the same size. The bobcat has many of the characteristics common to its larger relatives, among them a timidity towards man and a ruthless pursuit of the prey upon which it lives.

objectionable carriers of disease ticks and fleas. If a boy kills a bobcat he is told he has performed a great feat of bravery and often natural ego is further inflated by accounts of his feat appearing in the local papers.

Unless unduly surprised or menaced, wildcats are harmless shy creatures almost always dashing away from one with unusual celerity. Their gait is generally a series of leaps or rabbit-like jumps. Because of the small size of their lungs a sustained fast run is not possible. It is always surprising to me to see how far they can jump when first aware of danger. Often a spring of 12 or 15 feet is made with greatest ease, this followed, if necessary, by several lesser ones until cover is reached.

Some day Americans may become aware, as the Scandinavians and some other European nations have, of the fact that they must protect the wildcat as a valuable and interesting animal friend, one to observe and admire. Said the late student of mammals, Joseph Grinnell: "The value of the wildcat in maintaining a proper check upon certain smaller animals and birds is sufficient to justify intentional preservation of it in uncultivated territory."

LETTERS

Dick Wick Hall's Salome . . .

San Marino, California

Desert:

Please compliment J. Wilson McKenney for his excellent article on Dick Wick Hall which appeared in the July issue of *Desert Magazine*.

You will be interested to know that Dick Hall had considerably more education than he generally admitted, and if my memory serves me correctly he once attended Grinnell College in Iowa, although I could be mistaken.

One other point: the town of Salome was actually named for my aunt, Dr. Grace Salome Davis, whose name at that time was Grace Salome Pratt (nee Grace Salome Stauffer). Dr. Davis was born in Iowa where, I believe, the Halls and Stauffers were acquainted.

My aunt and her husband were interested, with Dick Hall, in developing the valley into farming country, as I recall it, but the lack of water ended the dream. I have an old map of the area entitled "Rich Section Being Opened up by the New A.C. Railroad Showing the Harqua Hala and Harcuvar Mountains, Grace Valley and Salome." Grace Valley, the predecessor of Happy Valley, was also named after my aunt.

I have read many articles on Salome—each giving a different basis of origin of the town's name that I felt, in the interest of historical accuracy, impelled to clear up this matter once and for all.

Incidentally, Dr. Grace Salome Davis is presently living in Southern California.

ROBERT BALDWIN

. . .

A Lesson in Values . . .

Glendale, California

Desert:

While on a recent visit to the Huntington Library I came across this gem in a collection of epigrams written in Robert Burns' own hand, dated May 20, 1789, and addressed to William Creech:

"On being asked why God had made Mrs. D—so little and Mrs. A—so big:

"Ask why God made the gem so small,
And why so huge the granite,
Because God meant mankind should
set

That higher value on it."

With which, I am sure, all rock-hounds will agree.

FRANK H. OVERTON

San Andreas Fault . . .

San Clemente, California

Desert:

An extremely informative article on the San Andreas Fault appeared in the June 10 issue of *Colliers*. Informed people have told me that the best visual replica of this fault system is a plate glass window that has cracked due to stress and strain. There you will see the main cleavage, and shooting off from it are cracks of various sizes and lengths.

A quake did serious damage just a few years ago in the Tehachapi and lower San Joaquin areas. It was caused by a disturbance along the Bear Mountain Fault. According to news reports this action gave scientists the first proof that this minor fault was tied into the main fault system near Tejon Pass on U.S. Highway 99.

I own an interest in the mineral rights on 240 acres in the hills near Palmdale that is bisected by this fault. Locally it is called, "earthquake dike." I offered a large mining company a lease on the property but they advised me that although they found ore running to \$35 per ton, they would not take the risk due to the proximity of the fault. Subsequently a very rich find of gold was made in a water tunnel on this fault about 20 miles from my property. This gold was in a soggy mass of red dirt and much of it was mined with power shovels. For a few months this mine was hotter than a two dollar pistol and then suddenly they ran into a wall of the big fault and that was the end of the mine.

FRANK B. RUTLEDGE

. . .

Old 27 Rests at Last . . .

Genoa, Nevada

Desert:

In the August issue of *Desert* you have an article about "Train to be Displayed" at Carson City. At first it was intended that this historic Virginia and Truckee train be located on the Post-office lawn, but later this move was reconsidered.

The famous V&T roundhouse at Carson was sold and the rolling stock stored within had to be removed. They moved old Engine 27, one of the last of the famous V&T engines that hauled the "Mixed Train Daily" between Reno and Virginia City and then from Reno to Minden, Nevada, to a spot just north of the Carson City limits on route 395 along with a coach and mail and baggage car. The train is sitting there as proud as the days when the V&T was one of the busiest lines in the West.

The Glenbrook, a narrow gauge which hauled mixed trains between Truckee and Tahoe City, is at the museum in Carson City. This famous

little engine was active in the early days of logging around the lake.

WALTER S. YOUNG

. . .

Open Season on Eagles . . .

Haverhill, Massachusetts

Desert:

Lester Reed tells of his concern over the survival of the bald eagle in his letter in the August issue of *Desert*. And yet many beautiful small birds like the warblers have become extinct and other species are nearly extinct without causing the concern of Nature lovers who admire the big voracious beasts and birds of prey.

In the same issue you have a story from the *Buckeye Valley News* announcing the start of mourning dove season.

When big creatures devour little creatures it is considered "survival of the fittest" even though the little creature is more useful, beautiful and harmless. Why so much concern over the perpetuation of birds of prey? Is the love for eagles a purely sentimental affection because it has been chosen for a patriotic symbol? It would be a "fitter" survival if the swarms of beautiful insect-eating birds that are devoured by a pair of eagles in the course of a summer should survive instead of the eagles.

A mourning dove is a very beautiful and harmless bird. Why do we hunt them instead of the eagle? Is it only because of sentiment?

MINA I. LEWIS

. . .

Making the Desert Bloom . . .

Twentynine Palms, California

Desert:

After living in Santa Barbara for 16 years gardening became a very important part of my life. Three years ago we moved to Twentynine Palms on the high desert for my daughter's health. Through force of habit I turned to my gardening hobby despite the warnings of my neighbors who said my efforts would be a waste of time.

I bought a wide variety of plants, even some that nurserymen had never seen grown on the high desert. Everything I planted grew. I only lost two hibiscus to a hard freeze and two gardenias by transplanting while they were in bud.

Although snails and other pests presented a real problem, by using plenty of water and fertilizer I made the desert bloom.

Now with my bermuda grass lawn, 20 cedar and juniper trees, pansies, carnations, snapdragons, petunias, marigolds, roses, and scores of other plants I have a far more beautiful garden than I had on the coast.

MRS. LEOMA LANE

Program Announced for Seventh Annual Death Valley Camp Out

Unforgettable nights under the desert stars and thrill-packed days exploring the scenic and geologic wonders of Death Valley—that is what awaits the thousands of people who are planning to attend this year's Seventh Annual Death Valley Encampment in the Death Valley National Monument, Nov. 10 to 13. Production Chairman B. Paul Gruendyke announced the program for this year's event:

Thursday, Nov. 10

7 p.m.—Camp fire at the sand dunes; community sing led by Winton Burne; "History of Place Names of Death Valley," by Fred W. Binnewies; Mrs. George Palmer Putnam, master of ceremonies.

Friday, Nov. 11

8 a.m. — Artists' Breakfast; painting demonstration; Furnace Creek Golf Course; John W. Hilton, chairman. Open to public. \$1.50.

11 a.m.—Conducted tour of north end of Valley and Scotty's Castle starting at Government Center; National Park Service.

2 p.m. — Veterans' Day services at Scotty's Castle; Gov. Goodwin Knight, speaker; James B. Nossner, chairman.

7 p.m.—Camp fire at Texas Springs; Community sing led by Winton Burne; "Retracing the Manly Trail," by Ardis Walker; John Anson Ford, master of ceremonies.

9 p.m. — Square dancing at Furnace Creek Ranch; Kinnie Powers and Walter A. Bendroth, chairmen.

Saturday, Nov. 12

8 a.m.—Photographers' breakfast; Furnace Creek Golf Course; Floyd B. Evans, chairman. Open to public. \$1.50.

11 a.m.—Conducted tour of central Valley starting at Government Center; National Park Service.

Noon — '49er luncheon; Stove Pipe Wells Hotel; Mrs. George Palmer Putnam, chairman; \$1.50.

2:30 p.m. — Old-Time Miners' Contests; Stove Pipe Wells; Mrs. George Palmer Putnam, chairman.

3:30 p.m.—Burro Flapjack Contest; Stove Pipe Wells Hotel; Paul Palmer, chairman.

7 p.m.—Kodachrome show; Furnace Creek Ranch; featuring flora and fauna of Death Valley, geology, pictorial and desert photography; Floyd B. Evans, chairman.

8:30 p.m.—Community sing; Furnace Creek Ranch; concert by North

American '49er Chorus, Robert Norris, director; Dr. Thomas Clements, master of ceremonies.

9:30 p.m.—Square dancing; Furnace Creek Ranch; Kinnie Powers and Walter A. Bendroth, chairmen.

Sunday, Nov. 13

7 a.m.—Catholic Mass; Furnace Creek Inn; Rev. George T. Crowley, S.J.

7 a.m. — Protestant Sunrise Service; Desolation Canyon; special music; Rev. Richard M. Mussen.

8:30 a.m.—Authors' Breakfast; Furnace Creek Golf Course; John D. Henderson, chairman. Open to public. \$1.50.

Membership in the Death Valley '49ers is open to all who contribute to the expenses of the annual Encampment. If you want a membership card and a windshield sticker for your car, you may send your dues to Death Valley '49ers, 501 Hall of Records, Los Angeles. The following types of memberships are available: Active, \$2; Sustaining, \$5; Patron, \$10; Sponsor, \$25; Life, \$100.

Surplus funds in the treasury are set aside for the building of a Death Valley Museum. All Life Membership fees also go into that fund.

TRUE OR FALSE

Autumn is here — the season for desert field trips. Chances are you will get more enjoyment out of those trips if you know most of the answers to *Desert's* monthly Quiz. It is no disgrace to miss a few of the answers provided you acquire a bit of new knowledge in the process. If you answer 12 to 14 correctly you can give yourself a fair grade, 15 to 17 is good, 18 or better is excellent. Answers are on page 44.

- 1—Many of the Indian tribesmen in the Southwest still daub their faces with paint for ceremonial events. True..... False.....
- 2—Cottonwood trees shed their leaves in winter time. True..... False.....
- 3—First explorer to run the rapids of the Grand Canyon in a boat was Lieut. Ives. True..... False.....
- 4—Wupatki National Monument is an old Indian ruin in New Mexico. True..... False.....
- 5—The State of Utah derived its name from a tribe of Indians. True..... False.....
- 6—The pinyon tree grows well at all elevations in the Southwest. True..... False.....
- 7—The Colorado desert is in the State of Colorado. True..... False.....
- 8—The famous Comstock lode was located near Tonopah, Nevada. True..... False.....
- 9—A line drawn north and south through Salt Lake City would be west of Tucson, Arizona. True..... False.....
- 10—It never snows at Snowflake, Arizona. True..... False.....
- 11—Gen. Kearny's Army of the West in 1846 crossed the Colorado River near the present site of Needles, California. True..... False.....
- 12—Beavertail cactus has no spines. True..... False.....
- 13—Rattlesnakes often are killed by non-venomous king snakes. True..... False.....
- 14—Metamorphic rocks are formed when sedimentary or igneous rocks are altered by heat or pressure or both. True..... False.....
- 15—Father Kino was the first padre to explore the present territory of Utah. True..... False.....
- 16—According to Hopi tradition, the Kachinas live in the San Francisco Mountains of Arizona. True..... False.....
- 17—Native desert palm trees will live for many years without water. True..... False.....
- 18—Furnace Creek Inn is the name of a hotel in Death Valley. True..... False.....
- 19—Joshua Tree and Saguaro cactus are found growing together in certain parts of Arizona. True..... False.....
- 20—Prehistoric Indians of the Southwest used a crude type of potter's wheel to form their earthen vessels. True..... False.....

Here and There on the Desert . . .

ARIZONA

Independence in 10 Years . . .

ALBUQUERQUE — M. Maurice McCabe, secretary-treasurer of the Navajo tribe, declared that it is his hope to see his people independent in 10 years. He reported that a many-sided program aimed at ultimately taking the tribe out from under Federal supervision is gaining momentum. The government and the tribe are both contributing to this program, the former by educating Navajo children and aiding tribesmen who wish to move off the reservation; the latter by encouraging industry to the reservation and financing Navajos in college. McCabe said the college education program is growing rapidly. The scholarship fund has been increased from \$30,000 two years ago to \$100,000 today. Youth who accept the scholarships do so with the understanding that they will serve their people in some capacity for a set period of time.—*Phoenix Gazette*

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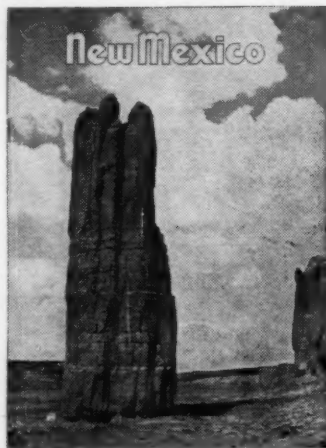
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State, U.S. Exchange Land . . .

YUMA—The Federal Government and the State of Arizona exchanged land parcels and both reported satisfaction with the deal. The Department of Interior gave Arizona 36,750 acres of public domain in Yuma County in exchange for 5900 acres of state-owned land in the Saguaro National Monument east of Tucson. Appraised values of the two tracts of land were each about \$275,000. Principal reason for the exchange was to allow the National Park Service to further develop the national monument in order to handle more visitors. The Yuma County land lies roughly 20 miles south and east of Yuma on the south end of the mesa. The exchange climaxed many years of negotiations.—*Yuma Sun*

Population Passes Million Mark . . .

PHOENIX — Arizona's population is now well over the million mark, non-agricultural jobs are at an all-time high and retail sales in the first half of 1955 were 11.3 percent above the corresponding period of 1954, reported the Valley National Bank's research department. The state's estimated population is 1,040,000, up almost 40 percent since the 1950 census. Phoenix city planning engineer John Beatty predicted that Phoenix will have a population of 250,000 within the next 10 years with another 250,000 persons in the city's metropolitan area. Beatty said the city will need an additional 26,000,000 gallons of water daily to take care of its increased population by 1965.

Bighorn Sheep Culling . . .

GLENDALE — John Russo, game technician attached to the Arizona Game and Fish Department-Texas Game and Fish Department bighorn sheep transplanting project, reported that as of late July the sheep have avoided a trap set up to capture them. Similar to the net-type antelope trap, the bighorn trap has a loading ramp at one end and utilizes a water tank for bait. Sheep have been observed in the area, but none entered the structure.—*Glendale News*

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U.S. Opens Small Tracts . . .

APACHE JUNCTION—The Federal Government has opened 320 small tracts of land for lease and sale near Apache Junction, 32 miles east of Phoenix. The tracts are approximately five acres each and the appraised price is \$200 each. A \$10 nonrefundable application fee and a \$30 lease fee are required with each application, the lease fee returnable to the unsuccessful applicants. Upon completion of a year-round home upon the tract within the three-year lease period the lessee becomes eligible to purchase the tract at the appraised price. Disposal and sanitary facilities to meet local government requirements must be installed.—*Phoenix Gazette*

CALIFORNIA

Mud Geyser Spouts . . .

CALEXICO—Fears of the birth of a volcano in the Calxico-Mexicali area were experienced in early September following discovery of a spouting mud geyser south of Mexicali. Geysering action in the area, where sulphur fumes and steam seep from crevices, sent mud and stones as high as 50 feet into the air. A Mexican volcanologist said the geyser was of volcanic origin but he foresaw no danger unless a major earthquake hit the area, liberating the seething under-surface pressure.—*Nevada State Journal*

Lease Law Aids Resort . . .

PALM SPRINGS — Recent enactment of a new law allowing 25-year leases of Indian land is expected to have far-reaching consequences for Palm Springs, where the Agua Caliente Indians have extensive holdings. A tribal-owned square mile section of land, largely undeveloped lies right in the heart of the city. One of the drawbacks to development of Indian land up to now has been the limiting five year lease provisions.—*Riverside Enterprise*

Tramway Plan Delayed . . .

PALM SPRINGS — Earl Coffman, head of the Mt. San Jacinto Winter Park Authority which hopes to build a tramway from a point about 2500 feet up the mountains above Palm Springs to a point about 8500 feet high, reported that the only obstacle remaining now to the construction of the project is a saturated market for revenue bonds. The Authority is seeking buyers for the \$13,000,000 issue needed to build the tramway. The Federation of Western Outdoor Clubs and other conservation organizations are seeking a repeal to the state law which makes the tramway possible.—*Riverside Enterprise*

Navy Still After Saline Valley . . .

SALINE VALLEY—Reports that the Navy has canceled its proposed withdrawal of public domain lands for the Saline Valley air-to-air gunnery range are entirely untrue, District Attorney Robert Loundagin reported. Assistant Secretary of the Navy R. H. Fogler informed Loundagin that "the Navy Department has by no means abandoned the idea of possibly establishing an air-to-air gunnery range in Saline Valley. The need for a range, its size, and location are still under study within the Department and no final decisions have yet been made. I wish to reassure you that you will be advised as soon as the Navy reaches a final decision with respect to Saline Valley." The Western Mining Council has issued a new appeal for all citizens of the area to oppose the military gunnery range grabs both in Inyo County and Western Nevada.—*Inyo Independent*

Niland Road Extension Granted . . .

EL CENTRO—A second 60-day extension in the time it had set for the reopening of the Niland-Blythe Road was granted to the Navy by the Imperial County board of supervisors. The board's action took place at a special meeting following the receipt of a letter from the Navy advising that condemnation proceedings have been recommended in order to determine a value on the road by court action, and funds for an alternate road provided. The road bisects the Navy's Chocolate Mountains gunnery range.—*Imperial Valley Weekly*

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THE *Desert* MAGAZINE
PALM DESERT, CALIFORNIA

NEVADA

Small Claim Deals Hampered . . .

LAS VEGAS—The Federal Government is moving with unprecedented speed to clear the mining claims from Clark County small tracts. In the past 90 days, 8980 acres have been cleared of the sand and gravel mining claims which heretofore have held up the issuance of both leases and patents. In some cases home-sitters were already living on the land in spite of the claims, posing an embarrassing problem to the government since the Department of Interior had issued patents to many of these small tract applicants.—*Nevada State Journal*

Wheatgrass Becoming Popular . . .

ELY—Siberian Wheatgrass, a relatively new grass for seeding dry range lands, is becoming popular with stockmen in eastern Nevada. A few trials have been made with this grass which has proven to be a good productive grass for the area. Siberian Wheatgrass is similar to Crested Wheatgrass but stays green and succulent longer.—*Ely Record*

Study Bighorn Restoration . . .

CARSON CITY—The Fish and Wildlife Service initiated a bighorn sheep study in conjunction with the State of Nevada with the objective of developing management information that will contribute to the further restoration of the animal throughout the state where suitable range is available. The studies will be pursued on the Desert Game Range and in nearby areas concurrently with a trapping and tagging program designed to determine the extent of movement within and from the refuge.—*Nevada State Journal*

Petrified Forest Damaged . . .

GERLACH—Uranium hunters have been bulldozing the Petrified Forest area north of Gerlach, finding no sign of ore, but doing considerable damage, according to members of the Nevada State Park Commission. The petrified forest was recently surveyed and posted for the purpose of warning people that looting and depredation of these areas is in violation of federal and state laws.—*Nevada State Journal*

Hard Rock Shorty of Death Valley



The temperature had gone up to 110 degrees and out across the salt-crusted floor of Death Valley the dust devils were playing hide-and-seek among the salt bushes. A dozen spirals of sand could be seen against the dark slopes of the Panamint Mountains.

"Jest miniature tornadoes," Hard Rock Shorty explained to the tourists who had stopped at Inferno store for cold drinks.

"Indians over in Arizony call 'em *chindes*," Shorty continued. They think they're evil spirits. An' I guess some of 'em are. I've seen 'em do some strange things.

"Member one summer when a bunch o' dudes wuz tourin' the Valley. Down Badwater way they all got outta the bus to look at them salt crystals which grows around the pools there. Jest then one o' them twisters came along, an' 'fore them fellers could grab their hats they wuz all sailin' off in a cloud o' dust.

"Pisgah Bill an' me wuz work-

in' a quicksilver prospect up in the Funeral Mountains. We didn't know nothin' about them dudes—but one afternoon one o' them *chindes* came over the ridge and left seven hats hangin' on the limbs of a mesquite tree right by our diggin's. Bill an' me didn't have to buy a new hat for 'leven years.

"'Nother time wuz when Bill brought in a cow so he could have fresh milk every day. We wuz workin' Bill's claim up on Eight Ball crick that summer.

"One evenin' jest about sundown when Bill had jest finished milkin' the cow one o' them twisters came down the canyon an' sucked the milk right outta the bucket.

"Bill was plumb disgusted. No fresh milk fer supper that night. But it came back. After churnin' that milk around in the air all night that twister came back up the canyon next mornin' and dropped a nice hunk o' butter on Bill's breakfast flapjacks."

THE DESERT TRADING POST

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NEW MEXICO

Deportation Formality Dropped . . .

WASHINGTON, D.C.—The Immigration Service is now returning Mexican wetbacks across the border without the formality of deportation proceedings. This quick procedure eliminates much extra work including the necessity of building up a file for formal deportation proceedings. A spokesman said that in most cases wetbacks are being given a chance to return home voluntarily.—*New Mexican*

Carlsbad Caverns Bats Dying . . .

CARLSBAD—The bats at Carlsbad Caverns are dying by the thousands, presumably because farmers in the area are spraying their crops against insects. R. Taylor Hoskins, superintendent of the caverns, said the bats probably are dying because they eat the poisoned insects. But, he added, there is not much chance that the entire colony of bats in the caverns will be wiped out. There are more than 100,000 at the present time—even by the most conservative estimates, he said.—*Phoenix Gazette*

Conference Settles Land Question . .

SANTA FE—A recent conference between representatives of the Mescalero Apaches, the State Welfare Department and four Federal agencies has produced the following major agreements in regard to the Fort Stanton reservation: about 26,000 acres of the reservation will be turned back to the Department of Interior; the State Welfare Department will keep 1800 acres and the right to use the landing field; the Interior Department will give full consideration to the rights of the Mescaleros in administering the lands. The U. S. Public Health Service abandoned its Fort Stanton hospital in 1953 and the State Welfare Department took over the buildings, water supplies and part of the vast acreage.—*Alamogordo News*

Indian Memorial Planned . . .

GALLUP—An ambitious plan for an Indian memorial several miles east of Gallup was announced recently. Costing an estimated \$9,000,000 it was described as a living memorial consisting of a 40,000 square-foot museum-memorial building which will include an Indian Hall of Fame and a Hall of Exhibits, and a 12,000 square-foot research building containing a library, reading rooms, seminar rooms, offices and storage. The plans also call for an amphitheater and the largest statue in the world — the stone figure of an Indian 250 feet tall. —*New Mexican*

Drouth Emergency Ended . . .

ALBUQUERQUE—New Mexico's federal emergency drouth program has been terminated. A weather bureau survey reports state ranges and fields in generally fair condition. High range land is in excellent condition. Livestock throughout the state is described as being in very good condition.

UTAH

Ute Indians Receive Money . . .

FT. DUCHESNE — The United States Government has made a \$200 per capita payment to 1801 members of the Ute Indian Tribe. Total amount of the payroll that will be distributed to the Ute members is \$360,200. Certain final obligations must be met first to the tribe and agency by those who are to receive the money before the rest of the fund is distributed.—*Vernal Express*

Salt Trust Case Opens . . .

SALT LAKE CITY—The Federal Government's anti-trust trial against processors of salt from the Great Salt Lake opened recently. Defendants in the case are Deseret Salt Co., Royal Crystal Salt Co., Morton Salt Co., and Deseret Livestock Co. Named as co-conspirators in the complaint "which alleges a conspiracy to suppress competition, stabilize and control prices," are Council M. McDaniel, president, Deseret Salt Co., and Stansbury Salt Co.—*Salt Lake Tribune*

Landmark Topples . . .

BINGHAM — The Montana-Bingham mine ore dump, a familiar landmark to residents and visitors to the Bingham area, was removed by bulldozers. Cloudbursts struck the community in the summer forcing mud and rock to wash down from the dump. Wooden timber — towering nearly 30 feet above the sidewalk — started to give way and officials said that it was considered unsafe for pedestrians as well as vehicles. The ore dump had been held back by a network of concrete and wooden cribbings for over 30 years.—*Salt Lake Tribune*



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Dinosaur Visitors Set Record . . .

VERNAL—The 21,798 visitors to Dinosaur National Monument set an all-time record for any one month during August. Total to date for the present calendar year is 60,553, an increase of 10 percent over the same period for last year. Registration at the museum indicated that every state in the Union but Maine was represented in the record breaking number of visitors.—*Vernal Express*

Southeastern Utah Land Reopened

MOAB—Some 28,000 acres of land in southeastern Utah are being opened for location for mineral leases and other forms of public entry, the Department of the Interior announced. The lands were withdrawn in 1948. They adjoin the north and east boundaries of Arches National Monument near Moab and are regarded as valuable for grazing but are too mountainous for crop production.—*Salt Lake Tribune*



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- Aug. '49—Uranium Strike in Petrified Wood. MAP
- Apr. '50—Dinosaur Bones in Colorado. MAP
- Aug. '50—Gem Field Near 29 Palms. MAP
- Sep. '50—Apache Tears in Nevada. MAP
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- Nov. '50—Agate Hunters in California. MAP
- Dec. '50—Gold on Garces' Trail. MAP
- Jan. '51—Nevada Invited the Rockhounds. MAP
- Jun. '51—Rocks of the Ages—In Utah. MAP
- Jul. '51—On Black Rock Desert Trails. MAP
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- Aug. '52—Black Agate in Milky Wash. MAP
- Dec. '52—We Explored an Old Nevada Lake Bed. MAP
- Mar. '53—Ghost Town Prospector. MAP
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- Dec. '51—Golden Treasure of Tule Canyon. MAP
- Jan. '52—Lost Shotgun Mine.
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- Jul. '52—Lost Mine with the Iron Door.
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- Jul. '53—Man Who Bought a Ghost Town. MAP
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All back issues of Desert Magazine are now available except Volume 1, Number 1, published in November, 1937. When some of the issues were exhausted, we bought them back from the owners, and for these we charge from 25c to \$1.00 each, according to what we paid for them. All others are available at the regular single copy price. If you'll send us a list of the copies you need to complete your files we will advise you as to the cost. Binders, each holding 12 copies, are available for all back volumes.

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THE *Desert* MAGAZINE
PALM DESERT, CALIFORNIA

BOOM DAYS IN URANIUM

New Power Concepts Do Not Threaten Uranium Demands

Senator Clinton P. Anderson of New Mexico told the nation's booming uranium industry that it need have no fear that use of that metal will suddenly drop off because of new atomic energy developments.

Anderson, chairman of the Senate-House Atomic Energy Committee, said he found a recent report by Jesse C. Johnson, director of the raw material division of the Atomic Energy Commission, regarding the increased uranium supply situation, encouraging but that he did not take it at all to mean that there would be any lessening of need for continued heavy U.S. production.

The thermonuclear (hydrogen) reaction process, if it could be tamed for peaceful purposes, would not use uranium or any other fissionable metal but would involve fusion of light elements. That is the basis for predictions that the process offers the possibility of using virtually inexhaustible raw materials to meet all of man's power needs.

Anderson said the effort to harness the H-bomb involves extreme difficulties, and there is no guarantee of eventual success. A scientist from India predicted it might be done in 20 years.

Throughout this research period, however long it may be, there will be increasing use of uranium and other fissionable metals as the atom is used more and more for power

and other peaceful purposes, Anderson said.

But, he added, even if a controlled thermonuclear reaction process does prove feasible, that will not mean the end of the nuclear fission process involving uranium. "There will be plenty of room for both," he declared.

"Scientists expect the thermonuclear process to be so huge, if it can be harnessed, that it would be practical only in the largest development," he concluded.—*New Mexican*

Beacon Uranium Company has uncovered an estimated 750,000 tons of uranium ore in the Temple Mountain district, with samples assaying as high as 1.5 percent. The ore face is producing 1.50 percent refined ore for a distance of at least 12 feet, and the company said it plans to mine the entire side of the mountain. The ore shows better quality as the mining operation moves inward.—*Pioche Record*

Tonopah United Uranium, Inc., is now making plans for a portable uranium-upgrading plant that will be able to process uranium ores that have a U308 content of .03 upwards. The commercial portable plant under consideration will weigh about 40 tons and at the present time the firm is considering three location sites. Engineers report that tests of the Tonopah bedding plane ores have increased the uranium content many times.—*Tonopah Times-Bonanza*

Rare Metals to Build Mill at Tuba City

An El Paso, Texas, firm, Rare Metals Corporation of America, has contracted with the Atomic Energy Commission to construct and operate a uranium processing mill at Tuba City, Arizona. Rare Metals hopes to complete the plant by mid-April, 1956. Ore from properties owned, leased or controlled by the firm in the vicinity of Tuba City, located on the Navajo Indian Reservation about 75 miles north of Flagstaff, will be processed at the mill.

Additional ore will be bought from independent operators of the region and from the AEC under terms of the control contract.—*Phoenix Gazette*

Assays from 800 acres of land located 20 miles southwest of Tonopah, Nevada, indicate uranium values of from .038 to .13 percent. Surface showings of vanadium on the same property range from .06 to .13 percent. Discoverers of the deposits are Walter Viscount and Vic Smith. The latter reported that the uranium ore occurs in several different formations and that the area's most interesting feature is the great width exposed on the bedding plane. —*Humboldt Star*

Professor Earle R. Caley of Ohio State University has evidence of a quest for uranium long before anyone ever dreamed of the fatal atomic bomb. Caley reports that the Romans prized uranium as long ago as the first century after Christ. They used it in the making of glass. Fresno Gem and Mineral Society *Chips*.

URANIUM TUNGSTEN MERCURY ZIRCONIUM—ZINC

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Utah Uranium Firm Seeks Mill Near Two Deposits

Continental Uranium Co. has started negotiations with the Atomic Energy Commission for establishment of a mill near La Sal, San Juan County, Utah. Company officials said the proposed mill would utilize an acid-leach refinement process developed for reduction of uranium ores by Blair Burwell Sr., metallurgist. The process employs the Burwell filter manufactured by Eimco Corporation of Salt Lake City.

Reserves in Continental Uranium's open pit Rattlesnake mine have been placed at 118,000 tons of ore running on the average of .3 percent uranium oxide. An additional 65,000 tons reserve is in Continental's No. 1 mine. In order to prepare the Rattlesnake mine for production by March of next year, the operators are moving 2,500,000 cubic yards of over-burden from an area averaging 850 by 800 feet outside perimeter. Average depth of the ore body is 160 feet.—*Dove Creek Press*

Floyd B. Odlum is financing purchase of the Cal-Uranium Corporation's mine in Big Indian District, San Juan County, Utah, for Mountain Mesa Uranium Corporation, the latter firm announced in a letter to stockholders.—*Salt Lake Tribune*

THE PROSPECTOR'S CATALOG

We are pleased to announce the advent of a new Minerals Unlimited Catalog, specifically designed for the amateur or professional prospector. If you are interested in Geiger Counters, Mineralights, Blowpipe Sets, Gold Pan or any of the other equipment necessary to a field or prospecting trip, send 5c in stamps or coin for your copy. MINERALS UNLIMITED, Dept. D 1724 University Ave., Berkeley, California

Nevada Prospectors Say Uranium Found in Lime

Added to the growing list of uranium host rocks in the Tonopah, Nevada, area was that of lime. Three prospectors, E. M. Booth, Frank J. Warren and Robert Warren, claim that they have found uranium in the fault zones of lime masses overlying granite intrusives. The original discovery was made by Joseph Gontko of Culver City, California, who sank a 15 foot shaft down one of the veins. Assays show that ore taken from this shaft runs from .10 to .20 percent. *Goldfield News*

The AEC has published two booklets for sale to the public, "Prospecting for Uranium," and "Prospecting with a Counter." The former sells for 55 cents and the latter, 30 cents. The booklets can be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.—*Pioche Record*

Two big uranium discoveries in Pershing and Churchill counties in Nevada are brightening the future of Lovelock. One discovery is in Cottonwood Canyon, a location which straddles the Churchill-Pershing line, and the second potential uranium mine is located in the Velvet District 25 miles northwest of Lovelock. That community is the natural outlet for future development and transportation for both deposits should they prove to be of commercial value. There is a great cross fault across the country up to nine miles in length which appears to carry the source of uranium. The country rock is rhyolite and pegmatite or rotted granite, and most of the claims are centered around the great flows which came out of the fault. *Nevada State Journal*

New Law Provides Mineral Entry on Withdrawn Land

Approximately 7,000,000 acres of public lands in the West will be opened to mineral prospecting as the result of legislation enacted during the last session of Congress. The measure, signed by President Eisenhower in August, is known as the Mining Claims Rights Restoration Act of 1955.

It opens to entry under the mining laws public lands presently withdrawn or reserved for power development or power sites, and provides that public lands so withdrawn in the future will be subject to the provisions of the act. All power rights to such lands are retained by the United States.

The bill does not open for entry any lands which are included in any project being operated or constructed under a license or permit granted under the Federal Power Act, or under an unanceled preliminary permit for examination and survey. It also gives the Secretary of the Interior authority to hold public hearings to determine whether placer mining operations would be detrimental to other uses of the lands involved.

According to Congressman Engle of California who introduced the bill, about 95 percent of the 7,000,000 acres of withdrawn lands have been withdrawn from mineral entry since 1910, yet in most instances the chances of utilization for power purposes are remote. The legislation was needed, he said, to modify existing statutory procedure which had effectively blocked restoration of land so withdrawn.—*Mining Record*

One of the largest specimens of super-grade uranium ore ever mined, a 103-pound piece, is on display in the Morgan Hall of Minerals and Gems at the American Museum of Natural History in New York City.

The specimen assays at better than 80 percent uranium, has a circumference of about 24 inches and is 19 inches long. As uranium ore it is worth about \$1,000. "The uniqueness and beauty of the specimen, however, is such that it is worth much more as a display," said a museum official.

Mineral composition of the specimen is black pitchblende (uranium oxide) and yellow schoepite (uranium trioxide and water). It makes an especially fine specimen because of its "interesting association of pitchblende and its yellow alteration parts," said the museum official. *Chemical and Engineering News*

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First Uranium Mill on Coast Opens in Mojave

The West Coast's first uranium ore processing mill went into operation in late summer at Mojave, California. McAfee and Co., consulting engineers, built the plant for the Verdi Development Co. of Los Angeles. "Skippy" Cornell, metallurgist and engineer in charge of building the mill, estimated that the plant will be able to process 50 tons of ore in an eight hour shift when it is in full production.

A sulphuric acid leaching process will be employed. During its initial stage of development, the mill will process only the ore that is mined at Verdi's mine eight miles south of the plant. The plant operators may process the ore of other mine operations in the area at a later date, Cornell indicated.

The vital importance of the first uranium mill lies in the fact that it will make uranium mining economically feasible in the west, Cornell said. — *Lancaster Ledger-Gazette*

Miners at the Atlas Uranium Corporation's Last Chance mine have uncovered a new three-and-a-half foot ore face which promises to assay even higher than ore previously produced at the mine, company officials reported. Shipments from the mine to date have averaged .40 percent uranium oxide. *San Juan Record*

New Mining Techniques Extend A-Fuel Reserves Indefinitely

New techniques for extracting uranium and thorium out of ordinary granites in the earth's crust have vastly extended the reserves of these atomic energy fuels. Whereas earlier estimates regarded the supply to last from 500 to 5000 years, a power-hungry world was assured it may count on these atomic energy reserves to last for an indefinite period measured in terms of millions of years.

It has been known for some time that immense quantities of uranium and thorium, the two principal natural elements from which atomic power can be derived by the process of fission, are present in igneous rocks, the common granite in the crust of the earth. But, the percentage of these elements in the rocks is so low they were not considered as holding much promise as an economic power source. In spite of the low content of uranium and thorium in the rocks, the metals can be extracted extremely easily, Dr. Harrison Brown of the California Institute of Technology, Pasadena, told

the International Conference on the peaceful uses of atomic energy at Geneva.

The secret to the extraction lies in the fact that they are concentrated in such a way as to make their extraction a simple thing.—*Salt Lake Tribune*

Monticello Mill U-Ore Buying Schedule Revised

A change in the ore buying schedule by the AEC uranium processing plant at Monticello, Utah, which provides for a revision in the deductions to be applied to ores containing more than six percent lime, has been announced by the Grand Junction Operations Office of the AEC.

When current construction and expansion at the Monticello mill is completed this fall, two types of leaching circuits for treating uranium ores will be available—acid and carbonate. The Commission has decided to establish two separate schedules for certain types of ores not meeting the specifications of Domestic Uranium Program Circular 5, Revised. Carnotite and roscolite type ores that meet the specifications will continue to be purchased at the Monticello buying station under the provisions of that circular. Ores, such as the high lime ores, that do not meet specifications, may be processed under ore-procurement contracts, provided the ores have suitable metallurgical characteristics.—*Dove Creek Press*

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MINES and MINING

Washington, D. C. . . .

The United States Bureau of Mines has completed a survey of the possible effects of atomic power on the steel industry, and concludes that atomic power ultimately may result in: a sharp shift from huge steel production plants to smaller productive units; a wider geographic distribution of these smaller steel plants; iron ore processing directly on the site of the iron ore mines. In the era of the hydrogen bomb, the heavily concentrated steel industry is a vulnerable target for enemy planes and steel is the backbone of the nation's defense production. As a result of the availability of low-cost atomic electricity, electric-furnace production of steel from scrap might become important in certain major steel consuming centers which today produce far less steel than they consume or often produce no steel whatsoever. The use of atomic power in conjunction with the hydrogen process for reducing iron ore might move iron production to the iron-ore site.—*Yuma Sun*

San Francisco, California . . .

A new, comprehensive bulletin entitled "Geology of Southern California" has just been released by the Division of Mines. The book, consisting of 878 pages of text, 441 text figures, an index map, 60 route maps to selected geologic trips, and 34 map sheets with texts and illustrations, is the product of 103 technical experts and was compiled and edited by Professor Richard H. Jahns of the California Institute of Technology. Issued as Bulletin 170 in the Division's series, the entire volume sells for \$12, plus 3 percent tax for California residents. Copies may be ordered from the Division's San Francisco office, Ferry Building, or may be purchased over the counter at the San Francisco, Los Angeles, Sacramento or Redding offices of the Division.

Ely, Nevada . . .

Shell Oil Co. reported recently that its leaning drilling derrick at Coyote Unit No. 1 has been righted after it began sinking into the ground. The new well, seventh to be drilled by Shell in the Currant area 65 miles southwest of Ely, reached a depth of 400 feet when the derrick began to sink. Special equipment was brought into the area to correct the situation. At 1171 feet the well ran into fresh trouble when it began to flow boiling water. All efforts to stem the flow of water failed and the well had to be capped and abandoned.—*Battle Mountain Scout*

Thompson, Utah . . .

Considerable tonnage of potash and magnesium is reported on the property of Crescent-Eagle Oil company, eight miles southwest of Thompson. U. S. Bureau of Mines officials recently predicted enough potash existed in the area for a chemical operation if a mine could be established.—*Pioche Record*

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Sacramento, California . . .

A national minerals stockpiling program, both for purposes of national defense and in the interest of the industry's economic welfare, is one of the major topics which will be discussed at the Western Governors Mineral Policies Conference in Sacramento, Nov. 7-8. The Conference will be followed by a meeting of the Western Governors Mining Advisory Council, also at Sacramento, Nov. 9-10. Governor Knight declared that the Conference will mark the first time in years that all phases of the western mining industry have joined to explore the broad basic problems affecting their interests and to develop recommendations looking toward the establishment of a sound national minerals policy.—*Inyo Register*

Elko, Nevada . . .

Sale of 55 percent of the Diamond Jim tungsten mine near Mountain City for \$100,000 was reported. Involved were 37 claims on approximately 600 acres in the vicinity of the original Rio Tinto Mine of Mountain City Copper. The sale was made to the exploration subsidiary of United States Smelting, Refining and Mining Corp. James C. Trisoliere of Sandy, Utah, developed the property. He was grubstaked 14 months ago by two Salt Lake City furniture firm owners, Ralph O. Bradley and Briant G. Badger. Since Trisoliere re-discovered the ore vein which had foiled others, the three partners have shipped eight cars of lead-silver ore to the USSRM smelter at Midvale, Utah, receiving \$25,000 for them.—*Nevada State Journal*

Phoenix, Arizona . . .

Walter T. Lucking, new president of the Arizona Public Service Co., believes Black Mesa coal is Arizona's most promising prime source of cheap power. Lucking said his firm has found coal deposits on the mesa, located on the Navajo Indian Reservation in northeast Arizona. Although he sees promise in nuclear and solar power sources, he said his firm is dedicated to bringing the "cheapest kilowatt hour" of electric power to the public. "Nuclear and solar energy, at present, simply cost too much in relation to the price that would have to be charged for the resulting electricity," he said.—*Phoenix Gazette*

E. A. (Bob) Montgomery, 92, well known mining figure and one of the developers of the great gold mining boom in Nevada at the turn of the century, died in mid-August in Clovis, New Mexico.—*Inyo Independent*

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Silver City, New Mexico . . .

Grant County in New Mexico has perhaps the cleanest roadsides in the state as far as the litter of tin cans is concerned, for these cans represent the means of converting ore-rich water into salable copper. The cans are burned and crushed and then thrown into the water where the soluble copper replaces the iron in the cans. Rain waters, filtered through the waste dumps at Kennecott Copper Corporation's Chino mines, bleed off into the draw, sending copper-laden water down the arroyo at the rate of 1000 to 1500 gallons each minute. Most of the tin can mining was conducted by Kennecott employees during the recent strike period.—*New Mexican*

Caliente, Nevada . . .

The Tempiute mining area, some 60 air miles west of Caliente, most noted during recent years for the intensive development of tungsten deposits by the Wah Chang Mining corporation, now promises rich returns to quicksilver claim owners. Western Empire Mercury and Uranium Corp. is developing cinnabar deposits covered by 21 claims. A rotary furnace to process the cinnabar will be installed in the future, the company reported.—*Caliente Herald*

Yuba City, California . . .

Yuba Consolidated Gold Fields Company reports that it panned out \$2,380,000 worth of gold last year from 16,895,000 cubic yards of gravel from depths as great as 124 feet below stream level. The company describes itself as one of two surviving out of many that turned to dredging auriferous gravel from the same California river beds where strikes of surface metal kindled the historic gold rush of 1849.—*Pioche Record*

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AMATEUR GEM CUTTER

By LELANDE QUICK, Editor of the Lapidary Journal

On several occasions we have said that when this column was started 13 years ago all the information then available on the subject of gem cutting could be contained in a cigar box, and few libraries had anything on the subject.

Today the picture has greatly changed and there are now available many good books on gem cutting, some of them selling for as little as a dollar a copy. It is a poor library indeed that does not have several of them. And now comes a new book that has taken all the information hitherto published, digested it, refined it, revised it and greatly added to it and put it all between two covers in a huge, well illustrated book for \$8.95; the most expensive book of its kind on the market but certainly worth it. This fine new book sticks closely to its subject and does not go off at tangents or deal with other phases of the rock hobby except to give lists of dealers, museums, clubs, etc.

While it is the most expensive of the many good books on the lapidary art it offers a lot more—nearly 400 pages of correct information about every lapidary step—and more important, it graphically describes with well drawn diagrams many of the mistakes that can be made in gem cutting.

It should be a good book for the author is one of the best amateur gem cutters in the country, having won prizes from coast

to coast. He has been writing on the subject for several years. He is a Certified Gemologist and, as a captain in the United States Navy, he has traveled to almost every nook and cranny of the world to study his gems at first hand.

A meticulous lapidary, (as amateur facetters learn to be) he has been just as careful in organizing his subject and the result is a readable book that will enable a rank beginner to become an accomplished lapidary simply by reading the book and doing what it says.

Gem Cutting does a lot of debunking and is built around the thesis that "anyone can cut gems" and that there is no mystery about it. The author faces up to the fact that the hobby can be personally profitable too and openly encourages the hobbyist to pay his own way.

The author begins by telling how the new hobbyist can get help from others, how to get started, what equipment he needs and how he can save money on it. Then, rightly assuming that the beginning lapidary knows nothing at all about gem cutting, he tells about mud saws, diamond saws and diamond powder and discusses and illustrates all types of blades.

Such things as shafts, bearings and carriages are explained and every phase of sawing is graphically described right up to methods of cleaning the sawed slabs. The same thing is done with grinding and lapping and the reader learns about proper speeds and wheel dressing. No step is omitted and the sanding and polishing processes are thoroughly covered. It takes five chapters and nearly 100 pages to cover these subjects.

Bead making, drilling and sphere making

instructions precede the making of cabochons and pages of money saving short cuts are described. Many methods for making home made polishers and other equipment are given. The information on faceting is the most complete that has ever been published and it is interesting to note that the author has personally cut at least one gem from just about every variety of gem material that is known. Existing knowledge has been matched by personal experience.

Following the gem cutting instruction Mr. Sinkankas gives a section on the nature of gemstones, followed by a description of every gemstone in the book and how to treat it individually in the grinding and polishing processes.

The last third of the book is really a rockhound buyers guide for it tells how to collect gem materials, how and where to buy, lists the museums with gem collections, other publications about gems, and where the reader can go to join a club. There is a clear indication that the author not only has done everything in a lapidary way himself but that he has read just about everything that was ever written on the subject and put it all between the covers of one book as no one has ever done before. We have seen his personal library of gem books and it is one of the most complete in the land.

If you have no book on gem cutting—get this one. If you have all of them—add this one.

Gem Cutting—A Lapidary's Manual by John Sinkankas, 397 pages with profuse illustration and diagrams. Procurable from Desert Crafts Shop, Palm Desert, California, for \$8.95 postpaid.

* * *

And then there is a new book for the person who is just acquiring an interest in rocks but who is not at this time interested in cutting and polishing them. This new book is titled *How to Know the Minerals and Rocks*. Authored by an experienced writer in the rock literature field, Dr. Richard M. Pearl, it has 192 profusely illustrated pages (several in color) and it is priced at \$3.50.

This practical, basic field guide to more than 125 of the most important minerals is the best book yet to appear for the beginner who needs basic information that is easily readable and understandable.

Each page presents one mineral accompanied by a well drawn diagram. Keys to its identification, characteristics, locations and interesting information about it is concisely offered.

Outstanding in this unique guide are the author's four keys to recognizing rocks and seven keys to recognizing minerals. Even many advanced collectors have difficulty recognizing common rocks but with these handy keys recognition of the more familiar specimens becomes a systematic procedure.

The book is a great improvement over earlier texts on the subject. Written for the beginner it will prove a delight to the advanced collector and it is a big value in today's book market.

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GEMS AND MINERALS

Properly Displaying Collection Adds Much to Beauty, Interest

There are many personal preferences on how rock collections should be displayed, but amateur and veteran rockhounds all agree that unusual and unique display methods enhance the overall beauty and interest of the collection.

Beginners with limited collections and old timers with rocks that have been shown many times find that their displays need a lift to add to their interest.

When you enter a complimentary show you should try to limit your collection, if it is of special material, to one type. Sometimes the whole effect of your display is spoiled by using too many different specimens. Keep your display alive by not using the same pieces each time. Set some aside and use them at another show. In this way you will always have something new and exciting to bring out.

Always keep your material size down to the scale of the case. If your rocks are large you will have to use less of them. Small rocks are lost in a big case.

White is most often used as the background in the cases, but colored backgrounds often add much to the display. If you find that your display has a predominance of one color, choose a background that is of a complimentary color. You can even use two colors to give more interest to the case. Try one color on the bottom and sides of the case and another for the shelves or elevations.

If you do not wish to make your background a permanent part of your case by using flocking, you can use other fabrics very successfully, too. Cloth may be stretched tautly across the floor and sides of the case or draped across the back. Make sure the fabric is always subordinate to the display.

Use dull finish paints in your case. Avoid high gloss for it reflects unpleasant light spots.

Irregularly shaped steps or shelves are preferred by many. Try placing your rocks on paper patterns and then cut the shelves out of plywood from these.

Label your material. This is important. These labels should not be too big, but make them large enough to eliminate crowded printing. Keep all labels uniform and double check the spelling. — Helen Yeager in the Oregon Agate and Mineral Society's *Oregon Rockhound*

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A club for persons who live too far from rockhound organizations to be active members is being formed in Texas. Name of the new club is the Rolling Rock Club and two dollars dues can be sent to Frank Woodward, Jr., 2503 Polk Street, Wichita Falls, Texas. The club was organized following a constitutional amendment to the Texas Federation of Mineral Societies, Inc., barring membership to rockhounds who were not affiliated with some local club or society. Members of the Rolling Rocks will be eligible to join the T.F.M.S. and will have a meeting once a year at the Federation Convention.

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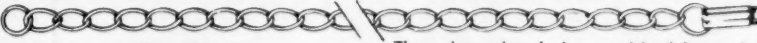


YOUR COST—26c each
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No. 27-2
NECKLACE CHAIN 18"

Has foldover clasp. Any of our jump rings will fit in links.

RHODIUM PLATED 2 for \$1.00 \$4.10 dz 3 dz \$9.25
GOLD PLATED 2 for \$1.00 \$3.50 dz 3 dz \$7.90




No. 28-3
BRACELET CHAIN 7"

STERLING SILVER RHODIUM PLATED
95c ea 3 for \$2.15 1 dz \$7.60

GOLD FILLED
\$1.10 ea 3 for \$2.50 1 dz \$8.80

These bracelet chains are ideal for making of baroque bracelet jewelry. The clasps are the foldover type which allow easy hooking. Any of our jump rings will fit in the links.

YOUR COST—73c each
in 1 doz lots.



No. 28-4
BRACELET CHAIN 7"

RHODIUM PLATED
3 for \$1.00 1 dz \$2.70 3 dz \$7.30

GOLD PLATED
4 for \$1.00 1 dz \$2.45 3 dz \$6.60

These bracelet chains are ideal for making of baroque bracelet jewelry. The clasps are the foldover type which allow easy hooking. Any of our jump rings will fit in the links.

YOUR COST—20c each
in 3 doz lots.

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OPALS AND SAPPHIRES rough, direct from Australia. Cutting opal, 1 ounce \$5, \$10, \$20, \$30 and \$60. Blue sapphires, 1 ounce \$10, \$30 and \$60. Star sapphires 12 stones \$10, \$20, and \$30, etc. Post free and insured. Send international money order, bank draft. Australian Gem Trading Co., 49 Elizabeth St., Melbourne, Australia. Free list of all Australian stones rough and cut, 16 pp.

GENUINE TURQUOISE: Natural color, blue and bluish green, cut and polished cabochons — 25 carats (5 to 10 stones according to size) \$3.50 including tax, postpaid in U.S.A. Package 50 carats (10 to 20 cabochons) \$6.15 including tax, postpaid in U.S.A. Elliott Gem & Mineral Shop, 235 E. Seaside Blvd., Long Beach 2, California.

GEMS A-PLenty: Beautiful baroque gems, large variety, tumble polished all over, \$10.00 for one pound (about 100 stones). 10 lbs. of top grade gemstone prepaid for \$7.00. Wholesale price to dealers on baroque gems and gemstone in the rough. Satisfaction guaranteed on every sale. San Fernando Valley Gem Co., 5905 Kester Ave., Van Nuys, Calif.

BEAUTIFUL FREE GOLD — Specimens \$1.00 each. Return if not satisfied. Prices to dealers. J. N. Reed, Box 102, Cabazon, California.

STOP at the new Ironwood Rock Shop. 7 miles west of Blythe, California, Highway 60-70. Many new rocks and minerals.

FINE CRYSTALLIZED minerals and massive ore specimens direct from western mines. Mineralights, fluorescent specimens and specimen kits for prospectors. No cutting material handled. Write for free list. Rocky Mountain Minerals, Dept. D, Box 1204, Idaho Falls, Idaho.

ATTENTION ROCK COLLECTORS. It will pay you to visit the Ken-Dor Rock Roost. We buy, sell, or exchange mineral specimens. Visitors are always welcome. Ken-Dor Rock Roost, 419 Sutter, Modesto, California.

COLORADO MINERAL specimens, cutting and tumbling materials. Send 2 cent stamp for list and terms. Dealers please write for wholesale list. John Patrick, Idaho Springs, Colorado.

ROUGH NEVADA Turquoise suitable for cutting. Mixed blue and green. All pieces large enough for jewelry settings. Two oz. \$2.00. Write Chuck Johnson, P. O. Box 38, Fernley, Nevada.

NOTICE: After August first we will be located at 2020 North Carson St., Carson City, Nevada. Mail address, P.O. Box 117. Gold Pan Rock Shop, John L. and Etta A. James, prop.

LOOK—3-month special on tumbled and polished gem baroque—lb. \$3.95, mixed variety—1/4 lb. \$1.10, slabs—15c sq. in. Dixie Rock Shop, 3245 Prospect Ave., So. San Gabriel, California.

McSHAN'S GEM SHOP—open part time, or find us by directions on door. Cholla cactus wood a specialty, write for prices. 1 mile west on U. S. 66, Needles, California, Box 22.

GOLD—Choice crystallized gold in white quartz from Grass Valley, California. 1 3/4 oz. piece 90% crystallized gold 1 3/4 inches by 1-inch—\$75. 1 3/4 oz. piece 2 inches by 1-inch crystallized gold and pyrite — \$30. 1-inch piece crystallized gold—\$18. Others—gold in quartz 1/2 inch to 2 1/2 inches — \$3 to \$20 each. Postpaid. Insured. Frey Mineral Enterprises, Box 9090, Reno, Nevada.

FIRE AGATE—ground to show the fire, you finish it. \$2, \$3 and \$5 each. B&H Rock Shop, 2005 N. Big Spring St., Midland, Texas.

ILLUSTRATED SLIDE LECTURE—Specimens, "Hunting Lake Superior Agates." Will be in Arizona, New Mexico, Texas, California area, January, February. \$25. Send day, dates, before December 15. Mr. and Mrs. Simon Segal, M.R. 97, Chesterton, Indiana.

FOR SALE: Genuine Sample of Uranium from New Mexico mines. Approved by AEC. \$1.00, postpaid. Cavern City Rock Shop, 303 N. Mesa, Carlsbad, N. M.

CHRISTMAS IS NEAR. Send for our catalogue and learn to make your own gemstone jewelry. Sierra Gems, 16230 Orchard Ave., Gardena, California.

ICELANDSPAR—double refracting rhombohedron-type crystals. Several crystals — 50c. Send for catalog with other minerals listed. No CODs. Satisfaction guaranteed. Ryzelite Minerals, Box 455, Golden, Colorado.

STOP AND SEE US—we have minerals, rough and slab material, 32 varieties of finest baroque and jewelry. Priced to sell. P. G. Nichols, Shady Acres Trailer Court, 1302 W. Casa Grande Rd., Tucson, Arizona.

PIEDMONTITE—Rare, deep red manganoferous epidote in crystal groups, from Peavine, Nevada. 25c to \$4 each, postpaid. Also Piedmontite Micromounts. Dealers inquire. In Reno, Phone 3-1429. Frey Mineral Enterprises, Box 9090, Reno, Nevada.

\$500 WILL BUY my private collection of selected minerals including 500 cabochons, complete lapidary equipment, shelves and cases. Worth \$1500. Come and see. J. C. Lasley, 564 N. San Antonio, Pomona, California.

GEMS OF THE DESERT—Baroque — nicely polished, tumbled variety, petrified woods, agates, jasper agates, rhodonite and many others. General mixture all types and sizes, \$7.00 per pound. Dealer's prices available. Golden West Gem Company, 7355 Lankershim Blvd., North Hollywood, California.

FLAT LAP. Factory made. Two speeds. Automatic arm. Several lap plates and two pans. A steal at only \$50. Loran E. Perry, 118 N. Chester Ave., Pasadena 4, California.

FOR SALE: Beautiful purple petrified wood with uranium, pyrolusite, manganite. Nice sample \$1.00. Postage. Maggie Baker, Kingman, Arizona.

HAVE REAL FUN with desert gems, minerals and rocks. The rockhound's how-to-do-it magazine tells how. One year (12 issues) only \$3.00. Sample 25c. Gems and Minerals, Dept. J-10, Palmdale, California.

Common spodumene is an ash-gray mineral that takes its name from the Greek *spodoumenos* meaning "burnt to ashes." There are, however, varieties of spodumene which are beautifully colored and transparent. Among these are hiddenite and kunzite. Spodumene crystals are sometimes very large. A single crystal, taken from the Etta Mine in South Dakota was 47 feet long and weighed 90 tons! — Evansville Lapidary Society's News Letter

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Gem Equipment not Prerequisite to Rockhound Hobby Enjoyment

Agate is extremely popular among rockhounds and rightly so. It has great variety, beauty, hardness and can be collected with comparative ease. But, agate isn't everything.

In order to cut and polish the quartz

ROCK HOBBY INTRODUCED IN BOOK BY DAVID E. JENSEN

Both amateur and experienced rockhounds will find *My Hobby Is Collecting Rocks and Minerals* a valuable addition to their libraries. The book was written by David E. Jensen, director of geology of Ward's Natural Science Establishment, an organization serving the geological and biological sciences.

The author wrote the book with an eye toward making the rock hobby inviting to people in search of a fascinating pastime. Highly detailed data and difficult terminology are omitted. Here is a book that presents the horse sense side of a hobby which amateurs are always prone to believe experienced collectors are born with.

The author, whenever possible, tries to save the hobbyist money by describing easy and inexpensive ways to collect, identify, polish, display and clean minerals. When a certain phase of the hobby demands a purchase, the best source for such materials are given. Several mineral charts are included in the book along with over 100 mineral specimen photographs.

Published by the Hart Book Company, Inc., of New York City, New York; 122 pages with illustrations and charts; \$2.95.

Star rubies contain six rays of light. The only 12-ray star ruby known was found in Ceylon in 1948 and weighs 25.2 carats. A six ray star ruby that size would be worth about \$7500. — Minnesota Mineral Club's *Rock Rustler's News*

family of minerals the hobbyist must have considerable equipment which is both expensive and quite bulky which prevents many from enjoying this part of the hobby.

Fortunately there are other vistas open to the truly enthusiastic and persistent rockhound which permit as much, if not more, enjoyment than that of producing gems. These people depend on that superior artist, Nature, to supply lovely and beautiful gems before they are modified by human hands.

The hobbyist can start a collection of crystals. By search, purchase and trade, he can build this collection into an outstanding one, enjoyed alike by those versed in mineralogy and those who have no knowledge about gems at all. A mineral group can also be established. The pleasure derived from the finding or acquiring of beautiful and rare specimens of the minerals is a lasting one.

Two subdivisions of collecting are those known as thumb nail and micro-mounts. The former consists of specimens that are large enough to be observed by the naked eye while the latter must be examined with at least a medium-powered microscope. Those who engage in these hobbies claim that the smaller specimens carry much more beauty and interest than the larger ones.

To the above variations of the hobby can be added the making of colored slides of rocks and minerals for projection on a screen; the collection and preservation of vari-colored sands; the collection of Indian rock artifacts; the collection of meteorites; and the gathering of beach pebbles. The most interesting feature of these hobbies is the study of the nature and composition of the materials which, sad to state, is ignored by far too many rockhounds.—H. L. Zollars in El Paso, Texas, Mineral and Gem Society's *The Voice*.

William Bingham of the Minnesota Mineral Club was elected president of the Midwest Federation of Mineralogical and Geological Societies at that organization's annual convention. Other officers elected were Arthur Anderson, Minnesota Mineral Club, vice president; Bernice Wienrank, Chicago Rocks and Minerals Society, secretary; Orval Fether, Earth Science Club of Northern Illinois, treasurer; Dr. Ben Hur Wilson, Mineralogist Society of Joliet, historian.

Deep red or orange-red soil of northern California is indicative of serpentine areas, the Gem and Mineral Society of San Mateo County, California, learned at a recent meeting. Speaker was Salem J. Rice, assistant mining geologist for the State Division of Mines. The blue jade found on the Vonsen ranch in Marin County is altered from serpentine, the speaker said, while the nephrite of Monterey County and jadeite of San Benito County are found in close association with serpentine. (From *Gems*, bulletin of the Gem and Mineral Society of San Mateo County.)


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"Treat yourself to the best"

	Heavy-Duty Super-Chgd.	Super Charged	Standard Charged
6"	\$ 8.00	\$ 9.03	\$ 7.98
8"	11.50	11.50	10.44
10"	15.23	15.23	14.02
12"	22.26	22.26	18.53
14"	29.40	29.40	25.67
16"	32.76	32.76	29.08
18"	65.60	43.20	36.12
20"	77.85	51.97	39.84
24"	93.24	65.73	51.40
30"	149.62	125.73	
36"	226.00	188.05	

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Covington Ball Bearing Grinder
and shields are furnished in 3 sizes and price ranges to suit your requirements. Water and grit proof.

COVINGTON 8" TRIM SAW
and motor are compact and do not splash. Save blades and clothing with this saw.

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and SAVE with a COVINGTON 12" or 16" Lap Kit. We furnish everything you need. Send for new free lapidary catalog.

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Accepted for years as the standard for fast, smooth cuts, long life, low cost! Finish requires a minimum of polishing. Wheel bodies are made of copper or steel. Diameters from 3" through 36".



Felker DI-MET Continuous Rim METAL BONDED BLADES
—Although more expensive in original cost, DI-MET Metal Bonded Blades repay in longer ultimate life and unusually fast cutting. Usually preferred in production cutting. Diameters from 2" through 12".



Felker DI-MET Diamond Abrasive CORE DRILLS—Drills rock samples in a few seconds. Produces exceptionally smooth, straight holes and removable cores. Drill diameters from 1/8" to 1 1/2".



Felker DI-MET UNILAP—A universal lapidary machine designed for multiple operations: grinding, sanding, polishing and lapping! Spindle operates in either vertical or horizontal position for maximum convenience and efficiency. Accessories quickly interchangeable.



Felker DI-MET Model DH-1—Operates like a circular saw, but blade dips into coolant stored in aluminum base. Blade can't run dry! Uses 6" or 8" DI-Met Rimlock or Metal Bonded Blades. Includes rip and angle fences.



Other machines available—Write for circulars on all DI-Met equipment
FELKER MANUFACTURING CO.
Torrance, California



The Colorado Mineral Society elected the following officers at a recent meeting: Jim Hurlbut, president; Algird Stephan, first vice president; Ralph Ellis, second vice president; Mrs. Gladys Cameron, secretary-treasurer; Mrs. Jeanette Clark, corresponding secretary; and Jack Britton, Muriel Colburn, George Harvey, Bill Hayward, Lawrence Oliver and Mrs. Helen Owens, directors. *Mineral Minutes*

The largest star sapphire known was found in Australia in 1948. It weighs 1156 carats. — Minnesota Mineral Club's *Rock Rustler's News*

Does Everything...

SAWS SANDS GRINDS POLISHES CUTS SPHERES FACETS LAPS



HILLQUIST Gemmaster
*without motor.
COMPARE!

● Put the Hillquist Gemmaster beside any lapidary machine — cheaper, flimsy "gadgets" or units that sell at twice the price. Compare construction! Compare ease of operation! Compare how much you get for your money and you'll say, "I'll take the Gemmaster!"

Here is a worthy companion for our larger and more expensive Hillquist Compact Lapidary Unit. The smaller in size, the Hillquist Gemmaster has many of the same features. It's all-metal with spun aluminum tub. You get a rugged, double-action rock clamp, not a puny little pebble pincher. You get a full 3" babbitt sleeve bearing and ball thrust bearing. You get a big 7" Super Speed diamond saw and all the equipment you need to go right to work.

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You can use all the regular Hillquist accessories with the Gemmaster: The Hillquist Faceter, Sphere Cutters, Laps, Drum and Disc Sanders, etc.

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COMPLETE, READY TO USE! YOU GET ALL THIS—



BUILT FOR LONG SERVICE!
No other low-cost lap unit gives you full 3" sleeve bearing, ball thrust bearing and pressure lubrication.

Lapidary EQUIPMENT CO., INC.
1545 WEST 49TH ST., SEATTLE 7, WASHINGTON

SAN DIEGO MAN RECEIVES BRITISH GEM DEGREE

Edward J. Soukup recently became the fifth member of the San Diego, California, Mineral and Gem Society to receive the degree of Fellow of the Gemmological Association of Great Britain. Word was received by the club that Soukup was successful in the examination required for the degree which is given by the British Gemmological Association of London.

The San Diego club holds the unique distinction of having five FGAs, for there are only about 20 persons in the United States with the degree and 200 in the world. The other San Diego FGAs are Jeanne Martin, Maxine Scott, Ann Kochel and Charles Parsons.

Meanwhile, the club announced that its first year class in Gemology began in mid-October. Advanced students began their second year class at the same time.

New officers of the East Bay, California, Mineral Society were installed recently. They included Robert Chisholm, president; Clarence Wall, vice president; Juanita Di-Vita, secretary; Betty Patterson, editor; Mrs. Harold Ladwig, librarian; Dennis Patterson, program chairman; Frank Wilcox, field trip chairman; and Sidney Smyth, property chairman. For the third year in a row the East Bay club took first place for mineral entries at the California State Federation show.

November 5-6 are the dates for the Montebello, California, Mineral and Lapidary Society's annual show. The affair takes place at Moose Hall, 122 So. 22nd St., Montebello.

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New 10-12 inch powerfeed slabbing saw unit.

16-18 inch powerfeed slabbing saw units.

8 and 10 inch trim saw units.

Plain and ball bearing belt sanders.

Send postal for free literature.

A CLUSTER OF JEWELS

By B. M. COLE

If understanding is a cluster
Of seven sparkling jewels,
Then patience, like a ruby smiles
And brightness overrules.
And kindness, like an opal gleams
On faults that cloud the needs;
And tolerance, like a pearl forgets
My neighbor's wrongs and deeds.
Moonstones have the power to see
One's purpose and mistakes
To find the cause of the heart's intent
And relieve the pains and aches.
Forgiveness is like a bright sapphire
Releasing the other's aim,
Absolving guilt and finding peace,
Freeing the soul from shame.
Goodness, like onyx, reflects the tint
And gives credit for the best;
And love, like gold, as the setting,
Holds the motive in the breast.

—Verdugo Hills, California, Gem and Mineral Society's *Rockhound News and Views*

TRUE OR FALSE ANSWERS

Questions are on page 29

- 1—True. 2—True.
- 3—False. Major Powell was first to run boats through Grand Canyon.
- 4—False. Wupatki National Monument is in Arizona.
- 5—True.
- 6—False. The pinyon grows in the Upper Sonoran zone only.
- 7—False. The Colorado Desert is in California.
- 8—False. The Comstock lode was near Virginia City.
- 9—True.
- 10—False. Snowflake often has winter snows.
- 11—False. Gen. Kearny's Army of the West crossed at Yuma.
- 12—False. Beavertail's spines are very small, but very potent.
- 13—True. 14—True.
- 15—False. Padre Escalante was first to explore the present region of Utah.
- 16—True.
- 17—False. Palm trees will not long survive without water at their roots.
- 18—True. 19—True.
- 20—False. Indian women formed their pottery with their hands.

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Turquoise, Jade and Jasper Jewelry

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Bracelets, Rings, Necklaces, Earrings
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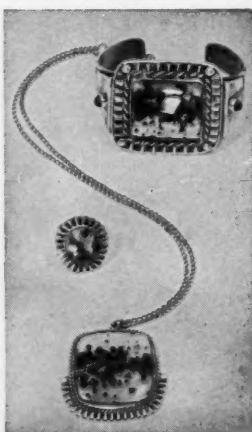
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NEW MINERAL FOUND IN SEARLES LAKE, CALIFORNIA

A new mineral, galeite, has been discovered in Searles Lake near Trona, California. Verification of the new mineral was made through the joint efforts of Adolph Pabst, professor of mineralogy at the University of California; Dwight Sawyer, process engineer at American Potash and Chemical Corporation's Trona plant; and George Switzer, curator of minerals at the Smithsonian Institution, Washington, D. C.

Galeite appears as minute white hexagonal crystals with a maximum diameter of about one millimeter. The mineral bears a resemblance to schairerite, to which it is closely related.

The new mineral was named after William A. Gale, assistant to the vice president in charge of Research for American Potash and Chemical who was director of research at Trona when traces of the mineral were first discovered. Searles Lake is the source of raw materials for American's main plant at Trona.

Efforts were made to identify the mineral in 1949 when it was first noticed in drill cores from the lake. Dr. Switzer was furnished with samples and data of the material, but investigation was dropped after preliminary surveys.—*Inyo Independent*

A new semi-precious stone, Arizonite, has been found in the Arizona desert by an Encinitas rockhound, Fred Harvey. The apple-green quartz-type rock has an extreme hardness and was found in a mass of upheaved volcanic rock. Exact location of Harvey's find was not revealed. San Diego, California, Lapidary Society *Shop Notes and News*

The Sacramento, California, Mineral Society will stage its annual show at the Turn Verein Hall, 3349 J St., Sacramento, on Nov. 5-6.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF

The Desert Magazine published monthly at Palm Desert, California, for October 1, 1955.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Desert Press, Inc., Palm Desert, California. Editor, Randall Henderson, Palm Desert, California. Business manager, Bess Stacy, Palm Desert, California.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.) Lena Clements, Clifford W. Henderson, Cyria A. Henderson, Randall Henderson, Evonne Riddell, Nina M. Shumway and Bess Stacy of Palm Desert, Calif.; Martin Moran, Indio, Calif.; Vera L. Henderson, Los Angeles, Calif.; Philip T. Henderson, Pasadena, Calif.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: Bank of America, Indio, California.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also, the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

RANDALL HENDERSON, Editor

Sworn to and subscribed before me this 26th day of September, 1955.

LOIS E. ROY
(My commission expires May 18, 1958.)

COLORLESS RUTILE PERFECTED, GREATLY RESEMBLES DIAMOND

Since the first appearance of synthetic gem rutile (titania) a few years ago, laboratory studies have been made to produce a colorless form of this material. The material now on the market has a distinct yellowish cast which detracts from the gem.

It was recently announced that a water-white rutile has been produced. This new material is a stromtium titanate with an index of refraction and a dispersion almost the same as that of diamond. Hence the new material will compare favorably with the diamond in brilliance and fire. This

synthetic gem material more closely resembles diamond than any other material yet produced by man.

One drawback to the new material is that it is reportedly softer than the present rutile. It is not yet on the market.—*The Mineralogist*

INDIAN JEWELRY

Made by the Hopi, Navajo and Zuni Indians

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LINDE 'A' RUBY POWDER \$3.70 PER LB.

For a LIMITED TIME the factory has asked us to sell "factory seconds" of this wonderful polishing agent which normally sells for \$20 per lb. Actual professional tests show this to be perfect for polishing cabochons and for use in tumbling barrels. **DEALERS WRITE FOR DETAILS. QUANTITY IS LIMITED** but we should be able to fill orders until Jan. 1, 1956. 8 oz. \$2.00; 1 lb. \$3.70; 5 lbs. for only \$13.90.

TIN OXIDE \$1.50 PER POUND

If you buy \$5 worth of Basic Lapidary Supplies from the following list. A \$10 purchase entitles you to buy 2 lbs. Tin Oxide at \$1.50 per lb. A \$25 purchase entitles you to buy 5 lbs. of Tin Oxide.

NORTON CRYSTOLON GRINDING WHEELS . . .

Size	6x1 1/2"	6x1"	8x1"	8x1 1/2"	10x1 1/2"
80 grit				\$7.50	
100 grit	\$2.65	\$3.60	\$5.35	7.50	\$11.35
220 grit	2.95	3.95	5.95	8.25	12.50
320 grit	3.35	4.50	6.70	9.40	14.20
Shipping weight	2 lbs.	3 lbs.	5 lbs.	6 lbs.	9 lbs.

Crystolon Wheel Dressing Brick 6"x2"x1" . . . 95c

CRYSTOLON ABRASIVE for the Lapidary . . .

Grit Size	1 Pound	5 Lb. Lots	10 Lb. Lots	25 Lb. Lots
80, 100, 120, 180, 220	\$.83	\$.52	\$.39	\$.30
2F (320), 3F (400)	.38	.57	.41	.32
Graded 400	1.09	.73	.57	.48
Graded 600	1.35	.94	.78	.69

DURITE (Silicon Carbide) ROLL SANDING CLOTH—

Available in 120, 220, 320 grits

Dry Rolls

2" wide, 25 ft. long—\$2.00;	150-foot roll—\$ 9.00
3" wide, 15 ft. long—2.00;	150-foot roll—13.25
10" wide, 5 ft. long—2.00;	150-foot roll—39.77
12" wide, 5 ft. long—2.25;	150-foot roll—47.70

Wet Rolls

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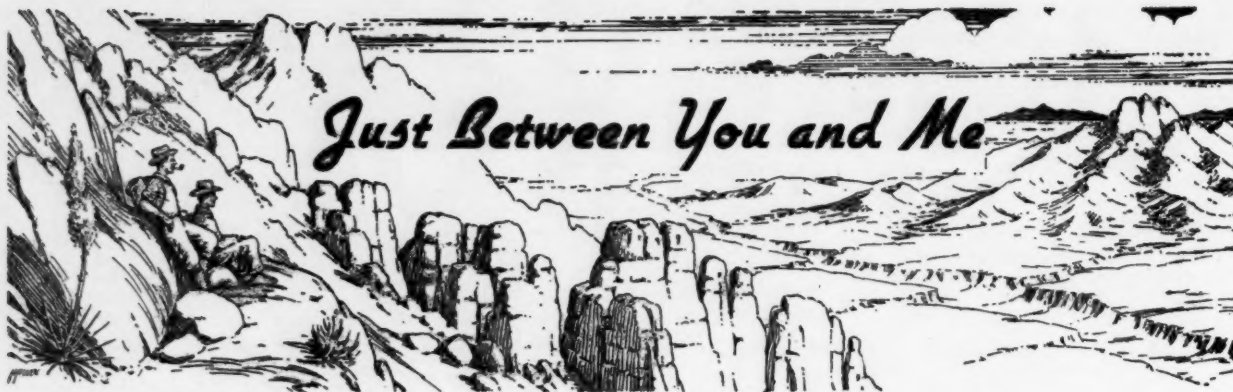
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By RANDALL HENDERSON

FROM EL PASO, Texas, comes the news report that a process has been perfected for converting the stalks of the greasewood, or creosote bush, into a composition board which can be used for making table tops, radio cabinets and interior finish lumber.

According to the report, the company which has been formed to start manufacturing the new composition wood will require a half section of creosote bush for each day's operation—150 square miles a year.

Why? oh why do we humans have to learn everything the hard way? By this time it seems we should know the tragic penalty in soil erosion and flood damage that must be paid when timber is stripped off the watersheds, and the dust-bowl consequences of tearing up the roots which hold together the soil of the great plains.

For the sake of a few added dollars of monetary wealth, which this generation does not need, it is proposed to create for future generations of Americans a desert which not only would be as arid as the great Salt Desert of Utah, but which through erosion would become too sterile to grow anything for ages to come.

To me this is a monstrous thing. It recalls something that happened on the Arizona desert 40 years ago. The laboratory technicians had figured out a process for converting the stalks of ocotillo into a long list of by-products, ranging from perfume to an extra high grade of resin. A group of promoters raised the necessary capital and built a processing plant at Quartzsite. Then they sent a crew out to harvest the ocotillo. All went well for a few days—until they had stripped all the ocotillo off the immediate landscape. Then they discovered something that apparently no one had thought of before. They found that the cost of harvesting and transporting the ocotillo from a distance was so great it ate up all the profits. And that was the end of the get-rich-quick venture in ocotillo.

According to the clippings I have on my desk, the Texas company is basing its plans on the assumption that a new crop of creosote may be matured every seven years. Perhaps it will, under forced watering—but there may be a flaw in that idea, also. Desert holly, grown under natural conditions, may be cut for decorative purposes (only on private lands with the owner's consent) and will remain crisp and fresh looking for weeks. Grown by irrigation it wilts in three days.

During World War II the United States government spent millions of dollars cultivating the rubber plant of the desert—guayule—as a possible emergency source of rubber. The experiment was a total flop. Grown under natural conditions guayule has a high content of rubber. But when they planted it in fields and used irrigation to

force its growth, the rubber just wasn't there to make it feasible economically.

I hope the stockholders in the El Paso venture can afford to lose what they deserve to lose in this ill-conceived creosote venture.

* * *

From a Naturalist, I have learned more about this desert in an evening's reading than in 40 years of tramping over the arid terrain. I have been reading Joseph Wood Krutch's latest book, *The Voice of the Desert*. It is a most revealing story about the lowly things of this desert land.

For instance, the dippodomy, which we call the kangaroo rat, is the one animal which lives out its life without any known source of moisture. Other rodents derive water from the plants and insects they eat. But dippo will thrive on a diet that consists of nothing but dry seeds.

From Krutch I have gained a new respect for the colorful lichens which grow on the shady sides of rocks everywhere. Lichen not only is the most primitive form of plant life, but it also is among the oldest. It was lichen which pioneered the way for the trees and flowers which cover the mountainside today.

Study of the natural phenomena of this earth serves to instill reverence for the Creator of it all. I have wondered why the schools of theology do not devote more attention to the study of Nature. The word of God should be taught, yes, but is it not also very important to seek to understand works of God as disclosed in the lowly things of this earth? I hope the time will come when the old prejudices against the theory of evolution will be forgotten, and the temples of religion—all religions—will be places where human beings may be made intimately aware of the miracles of creation which are taking place every day in the world about us.

* * *

This is being written early in October. Another hot summer has passed. The summer is a boresome period only for those who have failed to set up personal goals which keep them busy and active. Temperatures up to 115 degrees are no hardship to an active mind and a busy body.

Autumn is the most delightful season of the year in the arid country. Wind, and perhaps summer storms, have swept the canyons and mesas clean, awaiting the weekends when you and I will have the opportunity to put on our hiking boots and go exploring for the sometimes strange and often beautiful creations of the natural world. A secluded desert canyon is a friendly and gracious temple of learning for those who come with humility.

BOOKS of the SOUTHWEST

KNOWLEDGE OF OUTDOORS INCREASES SAFETY, FUN

Knowledge of the outdoors serves as a two-edged sword: it increases the pleasure that an outing brings and protects the camper from serious injury. An extensive collection of this knowledge is presented by Mary V. Hood in *Outdoor Hazards, Real and Fancied*.

Only a few of the reptiles, mammals, birds, insects and plants encountered in the desert, mountains or seashore are a threat to man. The rest are harmless and some even beneficial. This fact is a well known one, yet without the ability to distinguish the harmful from the harmless, the ignorant camper can spend a miserable vacation quaking in fear of all animals and plants. Often this leads to a futile and harmful campaign of wholesale extermination.

Mrs. Hood, at present consultant at Yosemite National Park where she has directed groups of young campers for more than a decade, clearly describes the animals and plants we should avoid and, if not successful in this, how to treat the wounds received from them. She also touches on the elements — another potential friend that must be treated with understanding.

Outdoor Hazards lists the things campers should unlearn, too, the myths and superstitions that increase the hazards of the outdoors.

The reader happily discovers that woodmancraft is not the exclusive property of the savage—a sixth sense born with the person, but rather that it is simply knowledge—a knowledge that is within easy reach of anyone anxious to make that next camping trip more enjoyable.

Published by the Macmillan Company, New York. Drawings by Don Perceval. Special section on reference material, index, 242 pages, \$3.95.

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NAVAJO STORY FOR THE VERY YOUNG

Nezbah was a little Navajo Indian girl — and everywhere she went, her small black lamb followed her. *Nezbah's Lamb*, by Edith J. Agnew and with drawings by Jean Martinez, is a delightful story for the kindergarten age. Nezbah lived in Arizona in a hogan with her mother and father and older brother. One day they went to visit the mission hospital and the little black lamb followed. The story of how the lamb helped the nurse, and both Nezbah and the lamb ended up with pretty white bandages is told in simple text and illustrated with large, colorful drawings.

The author has spent two summers in the west doing research in the Navajo country for her Indian stories for youngsters. The artist's illustrations are sure to captivate the children, with their color of true Navajo dress.

Published by Friendship Press. 32 pages. \$1.25 cloth bound; 75 cents paper.

PREHISTORIC DWELLERS IN THE GREAT SOUTHWEST

First Inhabitants of Arizona and the Southwest, by the acknowledged dean of southwestern archeologists, Byron Cummings, is "an authoritative study of the lives, customs, arts and crafts of pre-historic dwellers in the great southwest." As the author states: "the purpose of this volume is to bring before the young students and the public an outline of the life and attainments of the people who occupied the great Southwest before the coming of the Spaniards into this region."

Profusely illustrated with photographs and colored plates, especially in the pottery section, *First Inhabitants* covers Dr. Cummings' half century of intensive exploration in the ruins of Arizona, Utah, New Mexico and Mexico. He clearly interprets the origin of the peoples, their homes, agriculture and mining; the implements, weapons, textiles, ornaments and pottery used, and the religion they practiced. This will become a classic for the student of Southwestern archeology.

Published by the Cummings Publication Council, Tucson, Arizona. 251 pages. Photographs, colored plates, drawings, charts, bibliography. \$6.00.

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